# N.A.A. BULLETIN

*March 1959*

*In 3 Sections*
*Section 1*

## Adaptation to Direct Costing — Two Articles

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## Philosophy of Lifo Applications

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## Defense Contract Audit Liaison

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## Pseudo-Corporations

# N.A.A. BULLETIN

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# Direct and Absorption Costing in One System

by J. M. POMPAN

THE MANAGEMENT MAN who has attempted to keep himself informed of developments in the cost accounting field and their application to his problems may very well find himself in a quandary today. He has read arguments for and against direct costing and absorption costing, generally presented by strong advocates or opponents of each technique. With great enthusiasm, the proponents of direct costing have claimed that they have found a panacea for the complications of cost accounting and for mnagement's difficulty in understanding conventional income statement presentation. In addition, they have implied that the techniques developed for the use of absorption or inclusive costing were incorrect and confusing. The partisans of absorption costing, on the other hand, have been equally vocal in attacking direct costing as a Johnny-come-lately and an incomplete and dangerous method.

Is the choice really between a "right" and a "wrong" cost accounting plan? Must management choose between them and live with the disadvantages of one method to secure the advantages of the other? In my opinion, the answer is, "no." Direct and absorption costing are not really incompatible but are complementary to each other. The purpose of this article is to demonstrate that it is desirable and practical to join direct and inclusive costing together. In this discussion, only the internal reporting advantages and disadvantages of each method are considered. Direct costing as a technique for reporting to the public, stockholders, creditors, etc., has some special problems. As of this moment, the method is not considered to be an application of generally accepted accounting principles. The use of direct costing results in a lower inventory valuation than the use of inclusive costing, a correspondingly lower current asset figure and an apparently weaker current position. When taxes are considered, the problem of changing to direct costing for external reporting gets even more complicated. There are solutions to these problems, including that of presenting external statements on a full cost basis, but the final answer has yet to be evolved. Therefore we shall consider these cost methods as applied only to reports to management.

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Since usefulness of management information is the criterion, the advantages and disadvantages of each system will be evaluated from this viewpoint. For clarity, the "pure" versions of each method will be considered, without the auxiliary techniques which may overcome some of the deficiencies of the pure versions.

### What Are Direct and Full Costing?

We will start by defining our terms. In the broad sense, as others have pointed out, direct costing is merely a new name for a subject cost accountants have studied for years, the analysis of fixed and variable costs to obtain useful data for product decisions and for studies of break-even points. Specifically, under pure direct costing theory, product costs are compiled only in terms of costs which vary directly with production, e. g., direct material, direct labor, and variable overhead. Expenses which are independent of production activity are considered to be period expenses and are charged to expense when they are incurred. In an attempt to develop a rationale for direct costing, it has been argued that these fixed costs are not costs of production but of remaining open for business. It follows, therefore, that in the pure version direct costing is something of a misnomer. Since the *variability* of the cost determines its classification, we have not necessarily included all costs which are *directly* applicable to a specific product, such as the salary of the supervisor of the department making the product.

Under direct costing, only the out-of-pocket costs are deferred. High or low production volume does not affect the absorption of constant overhead and, therefore, does not affect profit. The contribution to period overhead is made only when the items are sold. Accordingly (all other factors being equal) profit will depend on sales and not on the interrelationships of sales and production.

Under full costing, no special attention is paid to the variability of an expense. All manufacturing expenses are considered to be costs of production. Therefore, the product costs which are compiled include an applicable portion of fixed overhead. Inventories and costs of sales are charged on this full cost basis. If actual costs are used, the fixed overhead is spread over the actual production for the period. Standard absorption costs would include fixed costs in product costs at a predetermined rate, based on a predetermined "normal" production volume.

With this method, there is necessarily an income statement item equivalent to over or under-absorbed burden which results from volume variations. Since inventory is charged with constant costs, these costs are being capitalized or de-

ferred. Although it is an extreme case, it would be theoretically possible to show a profit with no sales, if production were at a high enough level to create over-absorbed burden greater than selling and administrative expenses. Conversely, with high sales and limited production, failure to absorb fixed costs will reduce reported profit.

Understanding of the operation of the two methods will lead directly to an understanding of the advantages and disadvantages of each. It should be noted that, while both methods may be applied on an actual cost basis, this discussion is most concerned with their use on standard cost or standard cost rate basis, because the comparison is based largely on the relative merits of the management information produced, little of which is valuable without standards. Further, it is often difficult or impossible to determine the amount of variable expense without using a flexible budget, since some natural accounts are mixed and vary with production, but have a constant cost component.

### *Advantages and Disadvantages of Each System*

The prime advantage claimed for direct costing is the clarity of the cost-volume-price relationships expressed in the regular accounting statements. These statements show sales less variable cost of sales to determine "marginal contribution," or the amount available for fixed overhead and profit. Each sale is considered not to contain a profit in itself but to contribute toward profit, after overhead costs are paid. Fluctuations in inventory do not affect reported profits, which must necessarily move in the same direction as sales, if standards are met or variances are constant. The presentation may be simpler for management to understand than the conventional statement with its volume variance concept.

This same simplicity is also a potential danger. Direct costing tends, in fact, to oversimplify the complex cost relationships which actually exist. Many costs do not vary with production but are linked to order size, number of transactions, inventory policy and other factors. Fixed costs are never truly fixed. The longer the period under consideration, the more variable they become. In some cases, this oversimplification may be a greater problem than any difficulty in understanding the meaning of a volume variance.

An income statement based on absorption costing would, for example, avoid the profit surges which would be created under direct costing in the case of completion and sale of a major job which had been in process for many months. Again, there are situations in which direct costing would show losses even though production is operating at full capacity. Highly mechanized operations

may have so large an amount of fixed costs that the practice of carrying inventory at only variable costs may vitiate the entire concept of inventory.

The concept of volume variance does not appear in direct costing and to its partisans this is a great step forward. One is left, however, without a measure of the effectiveness of equipment utilization, which is one of the functions performed by volume variances. Direct costing ignores the problems presented by capacity and assumes that the fixed and variable cost lines just go on and on. In reality, they represent only the immediate situation and the short-run viewpoint.

The two systems must also be evaluated as producers of product cost information.

Compiling the variable costs of each product and accompanying marginal contribution data permits the use of contribution analysis in various management decisions. Figures can be directly compiled to indicate the effect of alternative choices on profit and the profit structure. If a price decrease is proposed, the volume increase required to retain the same total marginal contribution can be established. The products on which sales effort should be concentrated can be determined. The data can help analyze the effect of expanded facilities on the break-even point and margin of safety. Although the areas of application of contribution analysis are many, the limitations of the method must be recognized. Marginal business accepted at a lower price, based on an incomplete contribution analysis, may require enough additional expense for supervision, overtime premium and other items so that it makes no contribution to the original fixed overhead.

Absorption costing, on the other hand, provides total cost information not available in pure direct costing. A product may be making a contribution to fixed overhead, but it may not be sufficent to justify its retention in the line and it may not cover its "direct" fixed overhead. Business accepted on the basis of contribution alone may result in increased constant costs. Constant costs are not constant throughout eternity. Increased volume will often require additional supervision or billing clerks or even more space.

Pure absorption costing, however, will not provide variable cost information or marginal contribution data. The lack of this information may result in a decision not to sell a product because the price is below total cost, although further analysis would indicate that the product is making a satisfactory marginal contribution.

Which of all these arguments makes sense? The somewhat confusing answer is that they all do. There are significant disadvantages to the use of either pure direct costing or pure absorption costing. The studies that have been made of

the use of direct costing by industry indicate that, in practical application, many companies have found it desirable, if not necessary, to supplement pure direct costing with auxiliary information, either within or outside of the books of account.

### Does the System Fit the Industry?

The main characteristic of successful applications of direct costing is the very important fact that they fit and reflect the nature of the business. A manager in the hotel business might be interested in various costs expressed on a per room basis but would not think of the profit for each room rented as the daily room charge less total per room costs based on a normal volume. It would be easier and more logical to think in terms of per cent occupancy to break-even and to recognize that, with a higher occupancy level, the business would begin to make money.

This approach to the operation of a business does not apply equally well to all. It may help to consider manufacturing industries as divided into two broad categories, with somewhat set lines of demarcation:

1. Converters—manufacturers who primarily are performing a necessary but not unique conversion of materials into a product.
2. Innovators—manufacturers who primarily are introducing products which are, in some respects, unique.

Converters can be considered as being in business in order to provide and sell machine and plant time. They tend to be characterized by heavy investment and since their operations are not uncommon, their profits tend to be limited to a normal or "fair" return on investment. Paper mills, printing plants and steel mills seem to fall in this category.

Innovators, on the other hand, make and sell a specific product. The concept of selling machine time clearly does not make much sense when applied to the manufacturer of a toy rocket ship or to the developer of an unusual electronic instrument. Because of the unique nature of these items, profits and, of course, losses, can be quite high. Rather than return on investment, the profit of such a business should be thought of as a return on enterprise.

Even though this classification is limited and many companies would have characteristics of both categories, it can be very useful. If a company is essentially engaged in selling machine time, the extent of machine utilization is important management information. Fixed costs would tend to be different for different products. This kind of a situation would lead us toward full costing.

Innovators of the pure variety will not normally be concerned with machine utilization. They are often characterized by little difference in clearly determinable fixed costs per product. The concept of normal volume may not fit, since such a company will usually try to make and sell as many of its products as it can as fast as it can. Toy rocket ships may become a nation-wide fad or a fabulous flop. The special electronic instrument may be obsolete before it hits the market. Normal volume can always be selected arbitrarily, but such a procedure would clash with the principle that the cost system should reflect the nature of the business. These characteristics of the innovator classification favor the arguments for direct costing.

Since the choice between these methods is based on the utility of each to management, it is important also to consider the people to be served. If management has to make many short-term decisions—adjustment of selling prices, use of sales effort, adding or dropping products—direct costing has an advantage over absorption costing, as the data needed is readily available and the approach used in solving problems of this sort would be familiar to management through regular income statements.

### *Specifications of a Combined System*

This type of careful consideration of the nature of the business will often indicate which of the two approaches make a better fit, but the weaknesses of the system chosen must still be faced. Must they be accepted and lived with or is there another answer? The problem could be solved with the development of a cost system which combines the advantages of both direct and full costing. Such a system would:

1. Present clearly the facts of cost-volume-price relationships.
2. Determine the effectiveness of equipment utilization.
3. Establish both variable costs and full costs for products.
4. Determine the total amount of fixed costs.

We shall attempt to show that such a cost system can be devised and that it can be done using either method of inventory valuation.

The prime ingredient of this cost system is an expense budget to determine standard cost rates, by cost center, by operation or by plant. The applicable methods would be determined by the usual cost accounting criteria. Let us assume that cost center rates are the objective. A manufacturing expense budget would be prepared for each account or element of expense within each cost center. The nature of each element of expense is analyzed and the amounts budgeted

as fixed expense, variable expense and total expense are recorded for the normal activity level. The expenses of service departments are then redistributed in accordance with familiar practice. This distribution retains the division of budgeted expenses into fixed and variable categories. Although most service department expenses are fixed, they may include some variable items, such as coal used by a boiler room to produce process steam or electric power. After redistribution is completed, dividing the units of activity of the cost center into the total budget determines a fixed cost rate per activity unit at a normal level of operations, a variable cost rate, and a total cost rate at normal volume.

Selling and administrative expenses should be budgeted in the same manner. Although these costs are not included in inventory valuations, it is often important to analyze them. They frequently include variable costs such as commissions, royalties, cooperative advertising and the like.

### An Example

To make this discussion somewhat clearer, let us consider the simplified example of the Cabbages and Kings Manufacturing Company. The results of a sizeable amount of analysis work have been expressed in a manufacturing standard cost budget (Exhibit 1). Although selling and administrative expenses have not been included in the exhibit, the total of the selling and administrative budget is $20,000, of which $10,000 is variable commission expense, based on a commission rate of 10 per cent of sales dollars.

If the standard material costs for each product and the standard hours re-

Cabbages and Kings Manufacturing Company, Inc.

MANUFACTURING STANDARD COST BUDGET

| Account | Service Centers | | | Production Center A | | | Production Center B | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fixed | Variable | Total | Fixed | Variable | Total | Fixed | Variable | Total |
| Supervision | $ 300 | - | 300 | 400 | - | 400 | 400 | - | 400 |
| Indirect Labor | 2,000 | - | 2,000 | 600 | 1,400 | 2,000 | - | 900 | 900 |
| Payroll Benefits | 300 | - | 300 | 100 | 1,600 | 1,700 | 100 | 2,300 | 2,400 |
| Supplies | 1,000 | - | 1,000 | - | 1,500 | 1,500 | - | 3,400 | 3,400 |
| Depreciation, Insurance & Taxes | 200 | - | 200 | 3,500 | - | 3,500 | 2,600 | - | 2,600 |
| Total | 3,800 | - | 3,800 | 4,600 | 4,500 | 9,100 | 3,100 | 6,600 | 9,700 |
| Redistribution | $(3,800) | - | (3,800) | 1,800 | - | 1,800 | 2,000 | - | 2,000 |
| Total | | | -0- | 6,400 | 4,500 | 10,900 | 5,100 | 6,600 | 11,700 |
| Direct Labor | | | | | 10,000 | 10,000 | | 15,000 | 15,000 |
| Normal Direct Standard Hours | | | | | | 10,000 | | | 15,000 |
| Manufacturing Expense Rate per Direct Standard Hour | | | | $ .64 | .45 | 1.09 | .34 | .44 | .78 |
| Direct Labor Rate per Hour | | | | | 1.00 | 1.00 | | 1.00 | 1.00 |

**EXHIBIT 1**

quired in each center are established, it is possible to determine standard product costs in terms of both variable costs and full costs. Consider, if you will, the manufacturing cost for one product which requires one standard direct labor hour in Center A and two hours in Center B with a material cost of $2.50 per unit. Standard cost rates can now be applied and the product manufacturing costs summarized as follows:

| | *Product A Manufacturing Cost* | | |
|---|---|---|---|
| | *Fixed* | *Variable* | *Total* |
| Material | | $2.50 | 2.50 |
| Labor, Center A | | 1.00 | 1.00 |
| Manufacturing expense, Center A | .64 | .45 | 1.09 |
| Labor, Center B | | 2.00 | 2.00 |
| Manufacturing expense, Center B | .68 | .88 | 1.56 |
| | $1.32 | 6.83 | 8.15 |

Since an analysis has indicated no significant differences in fixed selling and administrative costs of the various products, the company elected to apply these costs as a ratio to total manufacturing costs. Budgeted total manufacturing costs (material, labor, and manufacturing expense) of $67,000 divided into budgeted fixed selling and administrative costs of $10,000 results in a percentage of 14.9 per cent. We shall use 15 per cent. Variable selling expenses are 10 per cent of sales price. Product A sells for $12 and, therefore, has a variable unit selling cost of $1.20 for sales commission. The cost figures now look like this:

| | *Product A Total Cost* | | |
|---|---|---|---|
| | *Fixed* | *Variable* | *Total* |
| Manufacturing cost | $1.32 | 6.83 | 8.15 |
| Selling and administrative cost | 1.22* | 1.20 | 2.42 |
| Total | $2.54 | 8.03 | 10.57 |

* 15% of $8.15, total manufacturing cost.

This process can be completed for the other products in the line and a calculation made of the marginal contribution and the standard gross profit of each. Since budgeted fixed costs have been determined, it is possible to calculate the break-even point and profit curve, based on a selected product mix and selected prices. The work completed thus far is applicable to either cost method and either full or direct manufacturing costs can be used in valuing inventory.

### *Absorption Costing as the Basic System*

Suppose a decision has been made to use full costing as the prime method in our general books of account and, accordingly, to produce a conventional income statement. This data can be supplemented with calculations of gross profit by product or product line. The plan also involves pin-pointing the differences between operations and goals by determining variances. For illustration, consider the operation of Production Center A from Exhibit 1. Please remember that service center fixed expenses are being distributed on the basis of the budget at a predetermined flat amount. Thus, if service center expenses are $4,800 instead of the anticipated $3,800, only $3,800 will be distributed to production centers. The unexpected $1,000 is a variance of the service centers. Production Center A has produced 5,000 direct standard hours. Since normal for the center has been set at 10,000 direct standard hours, the activity level is 50 per cent. The actual expenses of the center are as follows:

| | *Production Center A, Actual Expenses* |
|---|---|
| Supervision | $ 400 |
| Indirect labor | 1,500 |
| Payroll benefits | 1,000 |
| Supplies | 800 |
| Depreciation, etc. | 3,500 |
| Total direct manufacturing expense | 7,200 |
| Redistributed expense | 1,800 |
| Total manufacturing expense | $9,000 |
| Direct labor | $5,300 |

The amount of standard direct labor is, of course, $5,000 or 5,000 direct standard hours at $1.00 per hour. This amount represents the debit into labor in process and is compared to the actual of $5,300 to determine the unfavorable direct labor efficiency variance of $300. For simplicity, we have assumed that there is no labor rate variance. The 5,000 hours extended by the $1.09 manufacturing expense rate determines the amount to be debited to manufacturing expense in process, or $5,450. The difference between this amount and the actual amount of manufacturing expense, $9,000, is the result of two independent factors. Controllable expense variance is the difference between the actual amount of expense and the budgeted amount determined by adjusting the flexible budget to the actual operating level. The other factor is volume variance,

which results from the over or under-absorption of the budgeted amount of fixed expense, resulting from operating at a higher or lower level of activity than anticipated. Let us determine these first by "flexing" the budget to the 50 per cent activity level.

| | *Production Center A* | | | | | |
|---|---|---|---|---|---|---|
| | *Adjusted Budget* | | | | *Controllable Expense* | |
| | *Fixed* | *Variable* | *Total* | *Actual* | *Variance* | |
| Supervision | $ 400 | | 400 | 400 | | |
| Indirect labor | 600 | 700 | 1,300 | 1,500 | 200 | |
| Payroll benefits | 100 | 800 | 900 | 1,000 | 100 | |
| Supplies | | 750 | 750 | 800 | 50 | |
| Depreciation, etc. | 3,500 | | 3,500 | 3,500 | | |
| | 4,600 | 2,250 | 6,850 | 7,200 | 350 | Unfavorable |
| Redistributed expenses | 1,800 | | 1,800 | 1,800 | | |
| Total | $6,400 | 2,250 | 8,650 | 9,000 | 350 | Unfavorable |

We have now calculated that controllable expense variance is $350 unfavorable. The difference between the adjusted budget amount of $8,650 and the $5,450 charged to manufacturing expense in process is the amount of unfavorable volume variance, or $3,200. An alternate method of determining the volume variance directly is possible and it can be used to check these calculations. This department has operated at a 50 per cent activity level or 5,000 direct standard hours. It has, therefore, not absorbed the standard fixed costs per hour for the 5,000 hours less than normal level. The fixed costs per hour of $.64 times 5,000 hours results in $3,200 volume variance. The controllable expense variance could have been calculated by subtraction.

If it had been decided to use direct costing in the general books, instead of full costing, product variable costs would be established. Extending sales quantities by these costs would determine standard variable cost of goods sold. Volume variance, of course, does not exist under direct costing. The arrangement of the income statement might then be as follows:

| | | |
|---|---|---|
| Sales | | $xxx |
| Less—Standard variable cost of sales | | xxx |
| Marginal contributions at standard | | xxx |
| Manufacturing cost variances: | | |
| Direct labor efficiency | xxx | |
| Controllable expense | xxx | |

*Continued*

| | | |
|---|---|---|
| Marginal contribution at actual | | xxx |
| | | xxx |
| Variable commission expense | | xxx |
| Contribution after variable selling expense | | xxx |
| Fixed expenses: | | |
| Manufacturing | xxx | |
| Selling | xxx | |
| Administrative | xxx | |
| Total | | xxx |
| Net profit | | $xxx |

Under direct costing, if Production Center A operated under the conditions outlined previously, controllable expense variance would be the same amount: $350 unfavorable. The debit to manufacturing expense in process would be the adjusted budget amount of variable manufacturing expense, or $2,250. The budgeted amount of fixed manufacturing expense, or $6,400, would be carried to the fixed manufacturing expense section of the income statement. Since volume variance does not exist, it would not be necessary to list the redistributed expense on the budget of the center. It should be noted that indirect labor is a mixed account; that is, it has both a fixed and a variable component. The controllable expense variance in such a case may have resulted from either component. This method of determining controllable expense variance is usually satisfactory, because the variances in fixed expenses tend to be small. If an account cannot be divided into functional accounts which would be either entirely fixed or entirely variable, no other method is available. If they can be so arranged, it would be possible to determine controllable expense variance on fixed expenses and controllable expense variance on variable expenses separately. However, this is not usually necessary.

We have demonstrated the operation of the two cost systems using the same manufacturing expense budget but have not yet solved the remaining weaknesses of each.

If an absorption costing system is used as our prime method, it may be desirable to prepare an auxiliary direct cost income statement in order to clearly understand the profit structure and to review the contribution of the major product groups. This can be accomplished by operating a direct cost system as an auxiliary to the general accounts. The auxiliary methods should be based on, and tied-in with, the general books. The value of beginning inventories would be calculated at both full and direct costs as a starting point. The standard variable cost of production to be charged to inventory would be determined from the depart-

mental statements. Fixed costs would be summarized by account from the budget. Standard variable cost of goods sold would be determined by extending sales by the standard variable unit cost for each product.

This method will produce a direct cost statement with the full detail which would result if direct costing were used as the prime accounting method. Such a degree of detail may not be necessary and it is possible to accomplish the desired result with less work. The debit into inventory for production under absorption costing differs from the amount charged into a direct cost inventory by the amount of fixed expense included in the full cost rates. This amount is already determined in total. At normal activity level, it is the budgeted amount of manufacturing fixed expenses. At activity levels higher than normal, it is the budgeted fixed amount plus the amount of favorable volume variance. It can, therefore, always be calculated as the budgeted amount of fixed expense plus favorable volume variance.

Deducting this amount from the full cost debit into manufacturing expense inventory will determine the variable standard manufacturing expense cost of production. The total budgeted amount of fixed manufacturing expense would be carried to the income statement as fixed expense. This leaves the problem of determination of variable cost of goods sold. For a product line of limited size, this can be done easily by extending the quantity of products sold by their individual standard variable costs. If the product line is broad, however, this procedure may be unnecessarily cumbersome. Satisfactory accuracy can often be achieved by presuming that the ratio of variable cost of sales to full cost of sales is the same as the variable-cost full-cost ratio of the manufacturing expense inventory available for sale. This ratio would be determined from the inventory calculations and applied to the absorption cost of sales to determine variable cost. If the inventory accounts are maintained by product line, greater accuracy can be obtained with this method.

Predetermination of the ratio of variable to full costs is also often possible. This should be done for those product lines with variable-fixed cost ratios which would not be significantly affected by changes in product mix within the line. This means that the individual products within the line would have similar variable fixed cost ratios. These ratios could be determined by comparing the variable costs for an assumed product mix with full cost, or the sales for a period can be costed both ways to determine the ratio to be used in the future. These methods, of course, are not applicable to all situations and should be used with considerable discretion. They will, however, frequently provide an adequate auxiliary direct costing presentation if desired.

### *Direct Costing As the Basic System*

We have discussed the application of an absorption costing system without losing the advantages of direct costing. Is it possible to retain the advantages of absorption costing if direct costing is used in the general books? The answer is, "yes." If both variable and fixed unit costs are established in the manner previously outlined, the prime advantage of absorption costing not yet added to the system is a measurement of the utilization of capacity. Since a complete budget and distribution of costs has been prepared, the standard fixed expenses, the normal activity level, and the fixed cost rate for each cost center are known. If the actual activity rate is determined, it is possible to calculate, by cost center, the amount of volume variance that would have appeared on the income statement if absorption costing were used. Perhaps the easiest way to accomplish this is to determine the number of activity hours above or below normal level for the period and extend these gain or loss hours by the fixed cost per hour. This information can be presented to management as supplementary information, showing the favorable or unfavorable volume variance for each cost center and in total.

While it will not normally be necessary to prepare the auxiliary direct cost information if absorption costing is the prime system, the auxiliary volume variance statement should ordinarily be prepared if direct costing is in use. It is only rarely true that equipment or plant utilization is of no interest whatsoever. If the total cost has been a consideration in pricing, it is important to confirm the assumptions concerning normal volume. The volume variance statement performs these important functions.

### *The Situation Calls for Imagination*

With the addition of the volume variance statement, we have completed the construction of a direct costing system which retains the advantages of absorption costing, as we have previously outlined an absorption costing system which retains direct costing advantages. The problems of external reporting have not been solved, but cost accounting is primarily a management technique and management considerations must prevail. The mechanics of accounting that permit the joining of the two methods are not of prime importance in themselves, but they do illustrate that direct and full costing are not really in conflict. If imagination is used in the design of a cost accounting plan, either method can be used to create a system which will permit management to know total unit costs, apply the techniques of contribution analysis readily, under-

stand the nature of costs and the break-even curve, and measure the utilization of a capacity.

If the nature of the company, its products, operations, and people are considered carefully, the choice of a cost accounting theory to be used as the prime method will usually be clear. Neither cost viewpoint is complete by itself, however, and it is not necessary to accept the disadvantages of either method in order to gain its advantages. If you consider the choice carefully, you will achieve the advantages of direct and absorption costing in a single system.

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## BREAK-EVEN ANALYSIS AND PRODUCT MIX

by R. A. Curry*

Most of the literature which I have read on the subject of break-even analysis deals with mix somewhat as follows: "Product mix in a company with diversified products greatly affects the break-even point. For that reason, any break-even point which is calculated is good only for the mix of products which is assumed for the study." The fact that this statement is true does not help much in the day-to-day use of break-even analyses in the management of a business. Product mixes in most companies do not sit still.

The unit ordinarily used to reduce unlike products to a common denominator is, of course, the sales dollar. This is an unsatisfactory common unit in many ways. Gross profit margins vary widely among products in our company as do ratios of variable expense to sales dollar. These difficulties can be overcome to some degree by analyzing product lines separately. A more serious objection to the sales dollar, though, arises when you attempt to include—as it seems you must—the factory operation in the company break-even analysis. The buffer of finished inventory between the manufacture and sale of an article causes the production and sales to be completely unrelated in some periods.

In an attempt to offset this objection, we are analyzing the factory as a completely separate business unit. In so doing, we are using standard hours as the common unit with which we relate unlike products. The break-even point for the factory is expressed in standard hours. It is the goal toward which the factory is striving. At the break-even point, if the factory is on budget expense-wise, the standard cost and the actual cost of the products manufactured is the same.

This has not been completely satisfactory, but it has enabled us to draw some interesting and accurate conclusions about the effect of certain foreseen incidents upon the profit of the organization. Perhaps this is all that can be expected of break-even analysis, after all.

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# Converting To and Using Direct Costing

by ROBERT J. DONACHIE

THE APPLICATION OF DIRECT COSTING for profit planning and management control has fostered a great deal of discussion and, in some areas, considerable controversy among accountants. Acceptance of direct costing is gaining momentum, but some controversial points still remain. This paper will attempt to present a practical answer to two of the points most frequently raised.

1. What is a practical basis for segregating fixed and variable cost?
2. Does direct costing necessarily change balance sheet inventory values?

In addition, I shall also try to point out the improvements in cost control attainable by isolating fixed or capacity costs on the profit and loss statements. By so doing, attention is focused on the variable costs and variable margin contribution which are subject to different measures of control than capacity costs.

Furthermore, it is my intent to dispel any notion that the implementation of direct costing need be difficult or cause any radical change in existing accounting procedures. The installation of direct costing involves certain basic considerations, the most significant of which are:

1. Segregation of fixed and variable costs.
2. Development of:
   a. Budgets for control of fixed and variable costs.
   b. A method of presenting inventory values on a basis consistent with past practice of the company in conformity with internal revenue and auditing interpretations.
   c. A reporting system for all levels of management.

Each of these steps will be discussed in some detail to demonstrate that, for most companies, they do not represent a significant change from current practice.

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### Segregation of Fixed and Variable Expense

For most accountants, any attempt to segregate fixed and variable costs immediately brings to mind the traditional approach of trying to identify fixed elements of cost by expense classification. In this approach, such expenses as depreciation, real estate taxes, etc., are regarded as fixed. Other costs such as direct labor, operating supplies and similar items are assumed to be variable. But what about such items as travel expense, social security taxes, etc.? Are they fixed or variable? Much effort has gone into trying to identify the fixed portion of these troublesome so-called semivariable items. It is the intention of this paper to propose that a functional classification of costs, i. e., by department or activity, eliminates much of the need for extensive calculation or poring over historical data to determine the fixed element of semivariable costs. Further this can be accomplished with no significant sacrifice of accuracy or cost control.

Before attempting to discuss the segregation of fixed and variable expenses, the terms should be defined and understood. In an attempt to resolve any misunderstanding of the terms and to demonstrate the concept of costs as identified by function rather than by expense classification, Mr. Wilmer R. Wright stated in a presentation to the American Management Association. (January 1958):

> "Many persons assume that the terms variable and constant (fixed) designate different kinds of expense. This is not true. *Any particular kind of expense may be variable, semi-variable or constant, depending upon conditions.* A constant expense is related to volume in a given period."

Thus it may be seen that the natural classification of expense by type, such as travel or maintenance and repairs, is not the sole determinant of whether a cost is fixed or variable. Rather, the functional classification of the cost which denotes why the cost was incurred is the important factor in classifying costs. This concept is supported by the following excerpt from the "Industrial Accountant's Handbook" (Fiske and Beckett, Prentice-Hall, 1954, p. 171):

> "The functional classification of costs (by department or cost center) is the significant one. By measuring costs at the point at which they arise, the functional classification accomplishes two objectives incident to establishing cost control:
>
> 1. It permits the fixing of responsibility for cost incurrence.
> 2. It permits the determination of the causes of costs incurred."

The application of the above principles to the separation of fixed and variable costs is illustrated by the table below, which presents expense types as further

classified by function. In this table, the term, "function," means department and, as such, includes a general overhead department or cost center to encompass such costs as depreciation, real estate taxes, etc.

| *Expense type* | *Code No.* | *Functional classification* | *Variable mfg. cost* | *Period or fixed cost* |
|---|---|---|---|---|
| Salaries | .01 | Production control dept. | | x |
| | | Cost dept. | | x |
| Wages—Direct labor | .04 | Small machines dept. | x | |
| | | Other production depts. | x | |
| Wages—Indirect labor | .05 | Small machines dept. | x | |
| | | Cost dept. | | x |
| Wages—Service labor Incurred | .06 | Small machines dept. | x | |
| | | Other production depts. | x | |
| Social security taxes | .15 | Small machines dept. | x | |
| | | Other production depts. | x | |
| | | Production control dept. | | x |
| | | Cost dept. | | x |
| Traveling expense | .22 | Production control dept. | | x |
| | | Cost dept. | | x |
| Stationery & office supplies | .36 | Production control dept. | | x |
| | | Cost dept. | | x |
| | | Other production depts. | x | |
| Repair & Maintenance labor | .60 | Cost dept. | | x |
| | | Production control dept. | | x |
| | | Small machines dept. | x | |
| | | Other production depts. | x | |
| | | Occupancy dept. | | x |
| Utilities | .67 | Small machine dept. | x | |
| | | Other production depts. | x | |
| | | Occupancy dept. | | x |
| Operating supplies | .70 | Small machines dept. | x | |
| | | Other production depts. | x | |
| | | Occupancy dept. | | x |
| Small tools | .71 | Small machines dept. | x | |
| | | Other production depts. | x | |

*Continued*

*Continued*

| *Expense type* | *Code No.* | *Functional classification* | *Variable mfg. cost* | *Period or fixed cost* |
|---|---|---|---|---|
| Defective product & process scrap | .78 | Small machine dept. | x | |
| | | Other production depts. | x | |
| Depreciation | .80 | Occupancy dept. | | x |
| Amortization | .81 | Occupancy dept. | | x |
| Property & misc. taxes | .85 | Occupancy dept. | | x |

An application of the concept of establishing costs as fixed or variable by function may be observed in the above table. For example, repair and maintenance labor incurred in the cost or production control departments is assumed to be fixed, while the same expense charged to a direct production department, such as small machines, is recognized to be variable. Further justification for using functional classification as a basis for identifying fixed and variable expense may be found by recognizing that the functions established, e. g., production control, cost accounting, reflect management's decision to incur these expenses for a relatively longer period of time. To quote from the N.A.A. Research Series 23:

> "An organization comprising at least the key executive, technical and supervisory personnel, are examples of facilities which cannot be readily acquired or dispensed with in response to short swings in volume. In addition, there are also fixed costs incurred because management has decided to make expenditures for advertising, sales promotion, employee training, and research, without regard to current sales or production volume. Therefore, the significant characteristic of fixed costs is that their amount is related to the volume of business for which provision has been made rather than to the currently prevailing volume.
>
> "When circumstances change, management reconsiders previously made plans and perhaps makes new decisions. Revisions in the budget of fixed costs then need to be made."

Based on these considerations, we can describe fixed costs as "capacity costs" or the cost of maintaining the capacity to do business. Another term which might be used to describe fixed costs is "period costs," which connotes that these costs are incurred more or less constantly over a period of time. There are those who would argue that the separation of fixed and variable costs in the accounts should be accomplished by using split accounts such as travel expense —variable, and travel expense—fixed, or repair expense—variable and repair

expense—fixed. However, many companies do not feel that there is any advantage to be derived from this and, therefore, that the added clerical effort and additional postings involved cannot be justified.

### Development of Budgets for Control

The segregation of fixed and variable expenses by major activity or function provides a logical and realistic basis for budget planning and ultimately the control of costs by responsibility. The old "hoodoo" of allocating or apportioning fixed costs to variable production departments is eliminated, along with the crutch so frequently used by supervisors when asked to explain variances incurred on costs over which they had no direct control. In a positive vein, a greater incentive and sense of participation in cost control is provided to shop supervisors when they are charged only with costs over which they can exercise control.

Examples of variable or flexible budgets as formulated for each direct production department are shown in Exhibit 1. Only those direct production costs

DIRECT PRODUCTION DEPARTMENT - VARIABLE BUDGET

Company XYZ — Manufacturing Budget

Division Standard Products — Date Prepared: July 1, 1958

Department: Sm. Eng. & Turret Lathes — No. 19.75 — Budget Base: Dir. Labor Hours

Supervisor: J. Doe — No. of Variable Units: 3300 HRS.

| DESCRIPTION | EXPENSE CODE | AMOUNT | RATE/HR. |
|---|---|---|---|
| Wages - Direct Labor | 04.00 | 6980 | |
| Wages - Service Labor | 06.00 | 335 | |
| Total - Dir. & Ser. Labor | | 7315 | 2.2167 |
| Wages - Indirect Labor | 05.00 | 1873 | .5676 |
| Taxes - F.O.A.B. & Unemployment | 15.00 | 444 | .1345 |
| Group Insurance | 17.00 | 338 | .1024 |
| Workmen's Compensation | 18.00 | 170 | .0515 |
| Repair & Maint. - Labor | 60.00 | 787 | .2385 |
| Repair & Maint. - Material | 61.00 | 330 | .1000 |
| Repair & Maint. - Outside Contracts | 62.00 | 33 | .0100 |
| Inter-Dept. Serv. Labor | 65.00 | 121 | .0367 |
| Utilities | 67.00 | 121 | .0367 |
| Operating Supplies | 70.00 | 124 | .0376 |
| Small Tools | 71.00 | 378 | .1145 |
| Defective Product | 78.00 | 1545 | .4682 |
| Total Expense | | $13579 | $4.1149 |

EXHIBIT 1

GENERAL PRODUCTION DEPARTMENT - VARIABLE BUDGET

Company: XYZ — Manufacturing Budget

Division: Standard Products — Date Prepared: July 1, 1958

Department: General Machine Shop Variable No. 19.70 Budget Base: Total Shop Hours

Supervisor: L. W. Smith — No. of Variable Units: 38606 HRS.

| DESCRIPTION | EXPENSE CODE | AMOUNT | RATE/HR. |
|---|---|---|---|
| Operating Supplies | 70.00 | $4100 | $.1062 |
| General Small Tools | 71.00 | 4800 | .1243 |
| Misc. Scrap & Rework | 78.00 | 9459 | .2450 |
| Total Expense | | $18359 | $.4755 |

**EXHIBIT 2**

over which the department supervisor has control are charged to his department as illustrated in Exhibit 1. To take care of other variable production costs of a more general nature, a similar variable budget is developed for the entire shop, based on total production hours. An example of this type of budget is shown in summary form in Exhibit 2. These expenses are not allocated back to the direct production departments. Responsibility for their control rests with the shop superintendent or plant manager. The rate per hour developed for the general machine shop department is added to the rate per hour of each direct production department to obtain a total rate for costing production. Thus, the total inventory absorption rate for the small engine and turret lathe department shown in Exhibit 1 is $4.1149 + $.4755 general machine shop variable expense, or a total rate of $4.5904.

Budgets for the fixed or capacity costs are also developed on a functional basis by department. Included in this category are such functions or departments as general occupancy expense, purchasing, accounting, production control, industrial engineering, cranes, etc. Expenses incurred in these departments represent the cost of maintaining total plant capacity. As such, they are either fixed by nature, such as depreciation and real estate taxes, or they reflect the cost of maintaining a key organization, such as purchasing or production control.

The term, department or cost center, as used in this discussion, includes not

only those fixed departments in which work is performed but also general overhead cost centers such as occupancy expense, under which such items as depreciation, real estate taxes, etc. are accumulated. Costs incurred in these departments or costs centers are regarded as necessary to meet planned capacity for an extended period of time. We, therefore, use the terms "period" or "capacity" costs to describe those expenses. Both of these terms emphasize the fact that, while these costs do not vary directly with current production, they can and should vary with major changes in production and/or sales over a period of time. As an additional control device, therefore, step budgets were developed for these departments. To illustrate this point, Exhibit 3 shows a summary of budgets, indicating the anticipated change in spending for capacity or period costs at various levels of production.

CAPACITY COST STEP BUDGETS

| Dept. No. | Department | Planned Budget Base 63768 hrs. | Step I 50000 hrs. | Step II 40000 hrs. | Step III 30000 hrs. | Step IV 20000 hrs. |
|---|---|---|---|---|---|---|
| 02 | Occupancy | $ 44628 | $ 43744 | $ 43302 | $ 42860 | $ 37556 |
| 11 | Production Cont. | 12489 | 11632 | 10204 | 9062 | 5349 |
| 13 | Purchasing | 13582 | 13117 | 11721 | 10325 | 5672 |
| 15 | Cost & Factory Payroll | 12968 | 11942 | 10146 | 8350 | 4502 |
| 28 | Finished Stores | 6442 | 5798 | 5476 | 4510 | 2577 |
| | All Other Depts. | 183142 | 172329 | 158377 | 145778 | 98768 |
| | Total | $273251 | $258562 | $239226 | $220885 | $154424 |

**EXHIBIT 3**

This approach is predicated upon the fact that a significant or major change in volume should result in a decrease in certain categories of expense. For example, closing a section of the plant should reduce utility expense. Lower volume could be handled by fewer production clerks, timekeepers, storekeepers, payroll clerks, etc. Again it is emphasized that these expenses do not vary *directly* with production but certainly do reflect a change when *significant* changes in production occur. Step budgets may be developed for the various functions from a knowledge of the factors which might influence a change in spending, such as direct labor hours, number of shifts worked, order backlog, etc.

## *Inventory Valuation; Application of Fixed Costs*

From the budgets which have been established for the variable cost centers or manufacturing departments, rates are determined for costing inventory at variable cost only. This, of course, provides the means of identifying variable costs of sales and variable margin on the profit and loss statement. It should be emphasized here that only variable costs are charged directly to inventory from production. (The amount of fixed cost to be reflected in inventory is determined at the end of the month in a manner explained below.) For each category of inventory, separate accounts are maintained for materials and variable labor and overhead, e. g.:

Finished units—Material,
Finished units—Variable labor and overhead.

The material cost reflected in inventory is primarily the cost of purchased materials. Variable labor and overhead represents the conversion costs expended

SUMMARY OF MANUFACTURING EXPENSE BUDGETS

| | BUDGET | RATE/HR. |
|---|---|---|
| VARIABLE PRODUCTION DEPARTMENTS: | | |
| Small Engine & Turret Lathes | $13579 | 4.1149 |
| Radial Drills | 19462 | 4.0037 |
| etc. | 270571 | |
| Total Variable Mfg. Expense | $303612 | |
| PERIOD MFG. COSTS | | |
| Occupancy | $22338 | |
| Production Control | 12489 | |
| etc. | 238424 | |
| Total Period Mfg. Costs | $273251 | |
| Ratio of Period Costs to Variable | 90% | |

**EXHIBIT 4**

upon these materials to produce a product or, stated differently, this account represents the variable manufacturing expense converted to inventory value. The data necessary to record transactions in and out of these accounts is incorporated into product standard costs in the same manner as in any other standard cost system.

To convert inventory values to a whole cost basis, it is necessary to determine the ratio of "period" or "capacity" costs to total manufatcuring cost. This can be accomplished from a summary of manufacturing budgets as in Exhibit 4. From this data, we can say that, for each $1.00 of variable labor and overhead absorbed, we should also absorb $0.90 of period cost. It then follows logically that, if period costs are to be carried in inventory at any time, they should represent 90 per cent of the value of variable labor and overhead.

Period costs are reflected in inventory in a period cost complement account, which is a bona fide inventory account. To determine the value to be shown in this account, all that is necessary is the adjustment of this account balance to 90 per cent of the variable labor and overhead inventory, with a corresponding adjustment to profit and loss by means of a period cost complement adjustment account. This computation is shown below:

| | *Beginning balance* | *Ending balance* | *Change* |
|---|---|---|---|
| Finished units variable labor & overhead | $500,000 | $400,000 | $—100,000 |
| Period cost complement | $450,000 | $360,000 | $— 90,000 |

The entry to record these account balances is determined from the change in variable labor and overhead as follows:

| | | |
|---|---|---|
| Variable labor and overhead change | = $—100,000 | |
| Period cost complement change @90% | = $— 90,000 | |
| Dr. Period cost complement adjustment (p&l) | | $90,000 |
| Cr. Period cost complement (inventory) | | $90,000 |

The impact on profit of the change in period or fixed costs carried in inventory is then reflected on the earnings statement under the account title, "period cost complement adjustment," as shown in Exhibit 5. If, for example, shipments or costs of sales exceeded current month production, the period cost complement adjustment would be unfavorable because the amount of period cost reflected in inventory would have decreased. Therefore, the period cost complement adjustment can be explained in terms of the change in inventory.

The value of period costs reflected in inventory based on normal capacity is always 90 per cent of the variable labor and overhead. The accuracy of this

STANDARD PRODUCTS DIVISION
STATEMENT OF EARNINGS

| | ACTUAL | % | FORECAST | % | VARIANCE |
|---|---|---|---|---|---|
| Net Sales | $2500 | 100.0 | $2000 | 100.0 | $+500 |
| Variable Cost of Sales | 1500 | | 1100 | | -400 |
| Variable Margin | 1000 | 40.0 | 900 | 45.0 | +100 |
| Period Mfg. Costs | 300 | | 275 | | - 25 |
| Direct Operating Expense: | | | | | |
| Selling | 125 | | 115 | | - 10 |
| Administrative | 75 | | 80 | | + 5 |
| Engineering | 150 | | 120 | | - 30 |
| Total Operating Expenses | 350 | | 315 | | - 35 |
| Controllable Earnings | 350 | 14.0 | 310 | 15.5 | + 40 |
| Allocated Expenses | 10 | | 30 | | + 20 |
| Period Cost Complement Adj. | 90 | | 80 | | - 10 |
| Earnings Before Taxes | 250 | 10.0 | 200 | 10.0 | + 50 |

**EXHIBIT 5**

computation can be very easily checked by determining the ratio of actual variable costs to actual period costs from the monthly summary of operating results. Any significant change in the ratio which should be reflected in inventory value could be recorded as an adjustment.

### *Reporting Structure*

The information provided by the segregation of fixed and variable costs has been helpful in developing a series of reports which is geared to each level of management by responsibility. Information is funneled upward from a a departmental level to the top corporate statements. The basic reports, some of which have already been exemplified in exhibits, are described below:

#### Departmental Budget Reports

1. Variable Production Departments—This report furnishes to each foreman or shop supervisor a comparison of actual expenses vs. budgeted allowances and includes only those items over which direct control can be exercised. (Exhibit 1).
2. Period Cost Departments—This report furnishes to each department head and the plant manager a comparison of actual results with step budget allowances. As significant changes in production occur, budget allowances are changed.

#### Earnings Statement

The significant features of this report are the identification of variable costs and corresponding profit contribution and the segregation of

fixed costs incurred during the month. The effect of the change in fixed cost carried in inventory is also identified as a separate item. (Exhibit 5)

Operating results are also portrayed graphically to facilitate break-even analysis. A sample statement of earnings for the Standard Products Division is presented in Exhibit 5, with the graphic presentation of the same information in Exhibit 6.

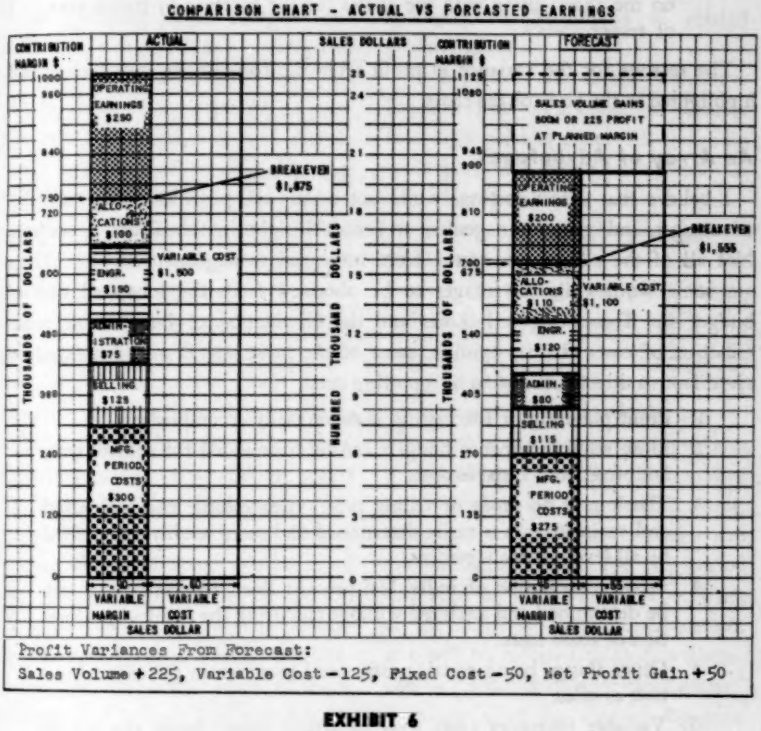


**EXHIBIT 6**

The chart presents basically three factors: (1) total sales volume as indicated by the vertical distance, (2) distribution of the sales dollar between variable cost and margin contribution and (3) distribution of the margin contribution, the amount of contribution margin utilized to pay off period costs, and the resultant operating earnings. Unlike most break-even charts, the chart shown in Exhibit 6 does not indicate a trend line. Rather, it portrays actual results for a specific period of time. The significant points to be noted are:

1. The gain in sales volume is indicated. However, the per cent of variable margin left to operating earnings did not increase in proportion.
2. The major cause of failure to realize the planned additional earnings from added sales was due to the change in p/v ratio from 45% to 40%. The change in contribution margin for comparable sales volume is shown on the chart.
3. The impact of the increase in period cost on earnings is reflected on the chart, along with the causes for the increase by major area of responsibility.

The reasons for the variance in profit from the forecast are summarized and highlighted in the body of the chart.

### *An Array of Advantages*

I believe that direct costing, while not a cure-all, provides some very real advantages and gives management a keener insight into business operations. Not all of the advantages accrue from improved management reports. There are some worthwhile advantages to be obtained from the increased ease of budget and forecasting techniques and the elimination of burdensome redistribution of costs. In my opinion, some of the most significant advantages derived from a direct cost system of reporting are:

1. Profit planning or forecasting is more easily accomplished.
2. More realistic expense budgets can be formulated for control over both fixed and variable costs.
3. The impact on profit or selling price, sales volume and both fixed and variable costs is easily determined and more readily understood by all levels of management.
4. Profit contribution of individual product lines, territories, etc., can be determined and analyzed without obscuring the results by allocation of fixed costs.
5. Other things being equal, profits tend to move in the same direction as sales.
6. Variable inventory costs tend to reflect more closely the out-of-pocket costs incurred to manufacture the product.

It is my contention that, through the implementation of direct costing, it is possible to obtain better control of business operations, a greater sense of participation from department supervisors and foremen, and to satisfy management's desire for information reports which adequately diagnose business conditions in terms which are more readily understandable. The initial effort is well worth the end results.

# A Case in Accounting For Special Merchandising Programs

by STANLEY C. ANDERSON

JOHNSON & JOHNSON is made up of an operating parent company and numerous subsidiary companies throughout the world. This discussion will be limited to the parent corporation which manufactures and distributes a wide line of surgical dressings and allied products and baby products throughout the United States. Sales are controlled primarily through a general line and a hospital line organization. General line sales are those made to wholesale drug outlets, chain drug units, and food chain units. Hospital line sales are those made to surgical supply houses or hospitals. Parent company manufacturing plants are located at New Brunswick, New Jersey; Chicago, Illinois; and Dallas, Texas, with additional warehousing and distributing facilities at Menlo Park, California. All sales promotion or merchandising activities are centralized at the home office in New Brunswick. General line merchandising activities are under the direction of a director of merchandising. Reporting to this director are numerous product directors, each of whom is responsible for a number of related product groups.

Each product size in the Johnson & Johnson line is assigned a separate four-digit product code. All the codes for a particular product are known as a product group. For example, Johnson's Baby Powder is packaged in small, medium and large size cans. The product codes might be 1001, 1002, and 1003, respectively. The first two digits (10 in this instance) designate the product group and the second two digits designate the particular put-up. The controller's department provides information periodically to the product directors showing, by product code, the sales, standard cost of sales and standard gross profit for the period and year to date. These reports are in the form of machine tabulations and will be referred to in this discussion as "product director tabulations."

Shortly after the first of the year, each product director is given a forecast product income statement for each product group under his direction.

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Johnson & Johnson — PRODUCT INCOME STATEMENT - Special Product (M $)

Mr. H. L. Jones

| DESCRIPTION | 1957 Actual DIRECT | AMOUNT ALLOCATED | TOTAL | % | 1957 Forecast AMOUNT | % |
|---|---|---|---|---|---|---|
| GROSS SALES | | | 8,600 | | 8,260 | |
| LESS CASH DISCOUNTS | | | 166 | | 160 | |
| NET SALES | | | 8,434 | 100.0 | 8,100 | 100.0 |
| COST OF GOODS SOLD | | | | | | |
| STANDARD COST | 5,330 | | 5,330 | 63.2 | 5,265 | 65.0 |
| SPECIAL DIRECT CHARGES | 59 | | 59 | .7 | 55 | .8 |
| ENGINEERING | | 18 | 18 | .2 | 19 | .2 |
| OTHER COSTS NOT INCLUDED IN STANDARDS | 10 | 6 | 16 | .2 | 12 | .1 |
| TOTAL | 5,399 | 24 | 5,423 | 64.3 | 5,351 | 66.1 |
| ACTUAL GROSS PROFIT | | | 3,011 | 35.7 | 2,749 | 33.9 |
| OTHER OPERATING EXPENSES | | | | | | |
| SALES PROMOTION | | | | | | |
| DEPARTMENTAL | 190 | 10 | 200 | 2.4 | 200 | 2.5 |
| FREE GOODS AND CONSUMER OFFERS | 24 | | 24 | .3 | 26 | .3 |
| DEALS | | | | | | |
| TOTAL SALES PROMOTION | 214 | 10 | 224 | 2.7 | 226 | 2.8 |
| SELLING | | 142 | 142 | 1.7 | 140 | 1.7 |
| MERCHANDISING MANAGEMENT | 20 | 5 | 25 | .3 | 25 | .3 |
| STOCK, SHIPPING & TRAFFIC | | 90 | 90 | 1.1 | 90 | 1.1 |
| FREIGHT, EXPRESS & TRUCKING | 180 | | 180 | 2.2 | 180 | 2.2 |
| ADMINISTRATIVE & GENERAL CORPORATE | | 106 | 106 | 1.2 | 101 | 1.2 |
| PRODUCT RESEARCH & DEVELOPMENT | 26 | 20 | 46 | .4 | 43 | .6 |
| TOTAL | 440 | 373 | 813 | 9.6 | 805 | 9.9 |
| INCOME OR (LOSS) BEFORE TAXES | | | 2,198 | 26.1 | 1,944 | 24.0 |
| INCOME OR (LOSS) AFTER TAXES | | | 1,099 | 13.0 | 972 | 12.0 |
| SUPPLEMENTARY DATA | | | | | | |
| STANDARD GROSS PROFIT | | | 3,104 | 36.8 | 2,835 | 35.0 |

**EXHIBIT 1**

Quarterly during the year he is issued a product income statement for each group, showing a combination of year-to-date actual plus latest revised budget covering the balance of the year. For comparative purposes, the original annual forecast is also shown. For example, the first quarter statement would reflect first quarter actual combined with the latest revised budget for the remaining nine months. At the end of the year, of course, this report will show actual results for the twelve months compared to original forecast results. An example of the Product Income Statement is shown as Exhibit 1.

At this point, a short discussion of the growth of the product director responsibility at Johnson & Johnson will be helpful. Product directors have for years been directly responsible for budgeting and controlling sales promotion costs. They have also been jointly responsible with the market research department for establishing sales fore-

casts by product group. Product income reports have been issued to product directors on a semi-annual basis for at least twenty years. However, until recently, product directors have not accepted responsibility for the net profit of the product group. The statements have been used mostly as information reports rather than action reports. The product director has now been made responsible, to the extent practicable, for the product profitability, including direct as well as allocated departmental expenses. Even under this concept, however, the product director will still continue to be primarily concerned with merchandising costs. Thus it is important to place all sales promotion costs under budgetary control.

### *Kinds of Programs—and Prior Practice in Accounting*

A recent study by the controller's department revealed some inconsistencies in accounting for the following types of special merchandising programs:

1. Cost of free or bonus goods.
2. Cash allowances in lieu of free goods.
3. Price reductions below lowest normal net price.
4. Special advertising allowances on deals or temporary advertising allowances on initial distribution.

Free or bonus goods are often allowed to the trade as an introductory offer. The customer is not billed in dollars for the free goods but the number of free goods items appears on the customer's invoice. This free goods is not reflected in sales dollars or on any sales tabulations. The quantity is accumulated by the tabulating department by product code, the standard cost is applied to the quantities, and a tabulation is prepared on a monthly basis. This tabulation shows, for the current month and cumulatively for the year, the quantities and standard cost by product code of all free or bonus goods. A copy of this report goes to each product director.

Cash allowances in lieu of free goods are also made available to customers as an introductory offer. The customer is billed for the full amount of his purchase and there is no indication on the invoice as to entitlement to any cash allowance. When certain merchandising requirements are met, the customer receives payment by check.

Price reductions below lowest normal net price are intended to cover any special temporary price concessions established by product directors for the purpose of promoting the product. They include special price concessions below lowest normal net price on combination deals but are not intended to be limited to combination deals. A regular put-up, offered at prices below lowest normal net price, would also come under this category.

Special advertising allowances on

deals or temporary advertising allowances on initial distribution have been used very sparingly in the past. Customers are advised that their purchases of a certain product will build up for them a temporary advertising allowance entitlement at a certain dollar figure per dozen or other unit of measure. Based on submitted evidence of specified types of advertising, the customer is paid the amount of his entitlement over a limited period of time.

The special merchandising programs described above were being accounted for in various ways:

1. The standard cost of free or bonus goods was considered as a cost variance.
2. The dollar amount of the cash allowance in lieu of free goods was accounted for as a sales allowance.
3. Price reductions below lowest normal net price was shown as unidentified reductions in sales dollars, with a consequent reduction in standard gross profit by product.
4. Any special or temporary advertising allowance was deducted from sales by product, with a reduction in standard gross profit by product.

### *Application of Principles to Merchandise Program*

None of the special merchandising programs was under identifiable budgetary control. Fortunately, the present merchandising management is very conscious of the benefits to be obtained from budgetary control, so that it was easy to obtain acceptance of a change in accounting for these special programs. Although these costs represent relatively nominal amounts in relation to total sales, the dollar amounts are sizeable enough to justify budget control. With acceptance of the principle, came the need for a decision as to the basic approach to be followed. We checked with a number of representative firms which would have similar problems. The accounting techniques applied varied greatly between companies. However, there were two basic principles which were being used, either in the pure sense or in varying degrees:

1. No sales are recorded at prices below an accepted net normal lowest selling price. Selling and merchandising management must accept the responsibility in their budgets for the loss of sales dollars. The cost to the merchandising or selling management for this promotion is the loss of sales dollars, which includes an element of lost gross profit.
2. The cost to the merchandising or selling management is the standard cost of the product involved. The use of company products as a promotion is considered in the same way as purchase of merchandising material so that no element of profit should be added. Also, the payment of cash in lieu of bonus goods is, in effect, a

partial return to the customer of gross profit and a partial free goods rebate. Thus, the only promotion cost is the standard cost percentage of the cash payment. Another way of stating the theory is that cash payments of this type are no different than bonus goods and the promotion costs should be comparable as between these alternatives.

The premise under Theory 1 is that all such promotions mortgage company business. To the extent that additional volume is obtained, normal volume at normal gross profit margins will be forfeited. Therefore, the true cost to the company is the loss of sales dollars. Under Theory 2, the premise is that such promotions result in additional volume which would not have been obtained through other advertising media. The cost to the company is, therefore, only the standard cost of the special merchandising program. The director of merchandising at Johnson & Johnson summed up the problem by stating that neither theory is wholly right or wrong. Somewhere in the middle is the correct answer. However, different types of business dealing with different classes of trade and products will be mortgaging varying degrees of normal volume through these promotional techniques. At Johnson & Johnson, the additional business is considered to be volume that would not otherwise have been sold. It was, therefore, decided to use the standard cost theory across the board, even though this creates a more complicated accounting system. The following paragraphs describe the effect of this decision on the accounting records of Johnson & Johnson.

*Cost of free or bonus goods*—The invoicing procedure remains the same, so that the customer is not billed for the free goods but the quantity of free goods appears on the customer's invoice. Also, there is no change in the sales tabulations. Free goods are not reflected in sales dollars or quantities. Tabulations by product code of free goods items continue to be issued. This tabulation is available to product directors on the same basis as the former tabulation of "cost of bonus goods". The standard cost of free goods is coded to sales promotion departmental accounts with a special expense tail-code, standard cost of bonus offers. The net effect of the change is to charge the standard cost of free goods to sales promotion departments instead of a cost variance account.

*Cash allowances in lieu of free goods*—Under the former accounting system, cash allowances in lieu of free goods were not shown as a deduction from detail tabulated sales. Under the new method, all cash and other allowances in lieu of free goods are shown as a deduction from tabulated sales by product code. The theoretical standard cost of the allowance is also calculated and shown on product director tabu-

lations as a deduction from standard cost. This standard cost is calculated by applying the normal standard cost percentage of the product to the dollar allowance. The cost is coded to sales promotion departmental accounts with the special expense tail-code, standard cost of bonus offers. The total of all such deductions from sales and standard cost by product code is shown separately on the product director tabulation by an identifying sub-digit. The net effect of this change is:

1. To reduce sales at the product code level by the amount of all cash and other allowances in lieu of free goods. Formerly, sales at the product code level were not affected. The cash allowance was shown at a top statement level only in an account known as "sales allowances."
2. To reduce standard costs at the product code level by the calculated standard cost of the dollar allowance. Formerly, there was no effect on standard cost.
3. To charge the calculated standard cost of the dollar allowance to sales promotion departments. Formerly there was no effect on sales promotion costs.

*Price reductions below lowest normal net price*—The controller's department receives advance notice from the merchandising department of any selling plan in which there is a price reduction beyond the lowest normal net price. If the price reduction is material in amount, it is handled as follows. Sales dollars on the customer's invoice and on sales tabulations are shown in the same manner as in the past, namely, at the reduced price. The price concession represents the difference between the allocated sales dollars by product code and the lowest normal net price by product code. The theoretical standard cost of the price concession is calculated and shown on product director tabulations as a deduction from standard cost by product code. This standard cost deduction is calculated by applying the normal standard cost percentage by product code to the dollar allowance by product code, and is coded to sales promotion departmental accounts with a special expense tail-code, standard cost of price concessions. The total of all such deductions from standard cost by product code is shown separately on the product director tabulation by an identifying sub-digit. The net effect of this change is:

1. To reduce standard costs at the product code level by the calculated standard cost of the price concession. Formerly, there was no effect on standard cost.
2. To charge the calculated standard cost of the price concession to sales promotion departments. Formerly, there was no effect on sales promotion.

*Special advertising allowances on deals or temporary advertising allow-*

*ances on initial distribution* — These are deducted from all detail sales tabulations as in the past. The theoretical standard cost of the allowance is calculated and shown on product director tabulations as a deduction from standard cost. This standard cost is calculated by applying the normal standard cost percentage of the product to the special allowance and is coded to sales promotion departmental accounts with a special expense tail-code, standard cost of temporary advertising allowances. The total of all such deductions from sales and standard cost by product code is included on the product director tabulation under an identifying sub-digit. The net effect of this change is:

1. To reduce standard costs at the product code level by the calculated standard cost of the special allowance. Formerly, there was no effect on standard cost.
2. To charge the calculated standard cost of the special allowance to sales promotion departments. Formerly, there was no effect on sales promotion costs.

### *Example of Effect on "Product Director Tabulation"*

The following data, presented only for the purpose of illustrating the effect on product director tabulations, is applied in Exhibit 2. Assume for Product A (Code 3113):

PRODUCT DIRECTOR TABULATION

How the Detail is Developed

| | Product code | Units | Sales | Standard cost of sales | Standard gross profit | Standard gross profit per cent |
|---|---|---|---|---|---|---|
| A | 3113 | 11 | $11.00 | $5.50 | 5.50 | 50% |
| B | 3113 | 12 | 12.00 | 6.00 | 6.00 | 50 |
| | X3113 | | ( 1.00) | ( .50) | ( .50) | |
| | | | 11.00 | 5.50 | 5.50 | 50 |
| C | 3113 | 12 | 11.00 | 6.00 | 5.00 | 45.5 |
| | Y3113 | | | ( .50) | .50 | |
| | | | 11.00 | 5.50 | 5.50 | 50 |
| D | 3113 | 12 | 12.00 | 6.00 | 6.00 | 50 |
| | Z3113 | | ( 1.00) | ( .50) | ( .50) | |
| | | | 11.00 | 5.50 | 5.50 | 50 |
| | | | | Tabulation | | |
| | 3113 | 47 | 46.00 | 23.50 | 22.50 | 48.9 |
| | X3113 | | ( 1.00) | ( .50) | ( .50) | |
| | Y3113 | | | ( .50) | .50 | |
| | Z3113 | | ( 1.00) | ( .50) | ( .50) | |
| | | | 44.00 | 22.00 | 22.00 | 50% |

**EXHIBIT 2**

1. One unit is to be given free with purchase of 11 at $1 per asset.
2. A cash allowance in lieu of free goods of $1 per sale of 12 units at $1 per unit. (Prefix X)
3. A price concesison of $1 per 12 units which have a lowest normal net selling price of $1 per unit. (Prefix Y)
4. A temporary advertising allowance of $1 per 12 units which are to be sold at $1 per unit. (Prefix Z)

In all examples, assume a standard cost percentage of 50 per cent.


### Summary

The Johnson & Johnson controller's department was faced with the problem of bringing certain special merchandising programs under budgetary control and providing a consistent method of accounting from them. I have discussed the theories which led to the decision to account for the special merchandising programs under the concept that the cost to the company is only the standard cost of the merchandise involved. I have also presented a resume of the manner in which accounting policies and techniques have been altered under this concept.


## A THREAT TO STABILITY

By L. F. Volpe*

Inflation and high taxation are two conditions with which we are confronted. These things seem to be an integral part of our complex society today. We must attempt to live with them, for factors other than business health have determined them. However, they act insidiously to break down the very basis of our economic strength. Profits tend to become overstated and return of capital is taxed. Thus, as inflation progresses, as it most certainly will, the capital base of business will shrink. Possible answers are:

1. Stop inflation.
2. Reduce taxes.
3. Depreciate on other than cost.
4. Accelerate cost depreciation.

At this time, only the fourth alternative seems practical. Congress has seen fit to attempt to alleviate the situation by several means, two of which are the declining-balance and the sum-of-the-years-digits methods of depreciation.

However, it has been our experience and that of others to whom we have spoken, that the revenue agents have been attempting to extend the lives of assets unrealistically and set up unreasonably high salvage values. The net effect is to leave unchanged the former unsatisfactory system of depreciation.

It is recognized that the Internal Revenue Service is hard put to fulfill its responsibility for raising money to finance the operations of the Federal Government. However, of much greater importance to us, we believe, is the fact that future revenues will be even more difficult to collect, because they will be directly proportionate to the ability and will of businessmen to replace older equipment, to expand operations, and to experiment with new machinery. And it follows that our ability to maintain full employment and to absorb into our labor force those who are reaching their latter teens can be accomplished only through the full utilization of an ever-expanding and modern capital base.


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# A Systematic Method for Checking Payroll

by JULIUS WIENER

PAYROLLS ARE ALWAYS CHECKED with much care but, despite this care, some mistakes always "escape" the attention of even the most conscientious checker. The real reason, in most cases, is the violation of a fundamental principle of control. Checking any mathematical computation in the same way as it was computed is not sufficient control, and, unfortunately, in most businesses the wages are checked in the same way that they had been computed. The checker simply repeats the computation—and makes the same mistake. To develop a method for checking the payroll in a way different from the computation requires the following:

1. To know precisely the payroll, itself.
2. To define the computation of the wages earned, by a mathematical formula.
3. To develop another formula for the calculation of the wages.
4. To extract from the latter the maximum possible number of common factors, which have to be simple mathematical expressions.
5. To determine the common factors in such a way that the single variable element in them will be the wage rate.
6. To make sure that the time elements, with their enormous variability of quantities, remain outside the factors and will be entered only in the final checking operation.
7. To calculate for each element of time or combination of time elements a definite factor, once and forever, and collect them in a factor table. The factors will multiply in one step what would otherwise require two or more.

For the development of formulas, as mentioned above, it is necessary to use letters and algebraic transformations. Common arithmetical figures are not practical for such developments, because they make impossible the continuous identification of originally-entered elements—an essential condition on the long way we have to cover.

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### A Particular Payroll

Before starting we must choose and define a definite payroll for our discussion. First attention must be centered on its time elements. In our payroll the maximum regular working time is 8 hours per day and/or 40 hours per week. All Saturday work is considered overtime work. The premium for overtime is 50 per cent of the regular earnings. For Sunday work the overtime premiums are established for the second and third shift. Sometimes two different premiums are stated for them. We will assume no Sunday overtime and one identical premium for both night shifts, and, to indicate them both we shall use the expression "night time." In effect, if both night time shifts have one common premium, as far as regards the computation of the wages only two classes of work or working shifts are present: the daily and night time work. It goes without saying that the overtime rule applies to the night time as it does to the day time. Thus we have for time elements which will be indicated in the following discussion by these symbols:

| | *Symbols* | | |
|---|---|---|---|
| Daily time | DT | | a |
| Daily overtime | DOT | | b |
| Night time | NT | or | c |
| Night overtime | NOT | | d |
| Total time | TOT | | e |

This week is the classical (and our) payroll period. As a general rule during one payroll period, a worker will be employed only in one shift and, as long as this is so, his time is to be analyzed only by two time elements: DT and DOT or NT and NOT. However, it is always possible that many workers will be employed on two shifts during one payroll period. Then the time for them must be analyzed by all four time elements. With these elements, twelve combinations are possible and, by indicating the time elements with their symbols, we have a handy means of listing all time combinations which can appear in the computation of wages, as follows:

| | | | | |
|---|---|---|---|---|
| DT | DOT | DT | DT | DT |
| | | DOT | NOT | DOT |
| | | | | NOT |
| NT | NOT | NT | NT | NT |
| | | DOT | NOT | DOT |
| | | | | NOT |
| DT | DOT | DT | DT | DT |
| NT | NOT | NT | NT | NT |
| | | DOT | NOT | DOT |
| | | | | NOT |

The wage elements must also be considered. Governmental inspectors regularly inspect the payrolls and the payments of overtime bonuses. Such an inspection can occur some years after the payroll has been made and, if the overtime payment is not clearly shown on the payroll records, it may become difficult to identify the proper payment. This may cause a lot of work, loss of time and confusion in the office. It is, therefore, necessary to record overtime payments on the payroll journals as a separate wage element. Further, contracts with workers' unions often determine definite earnings as regular or straight earnings while other additional earnings are classified as premiums for different purposes and under different titles. In order to preserve an easy means to prove the proper payment of those detailed earnings it is necessary to record on the payroll journal all those premiums as separate items.

The main wage elements are three: regular earnings, premium for the night time and the premium for the overtime work. A variety of special premiums constitutes a fourth element. A special premium usually has a definite incentive purpose. It can be based on a rate payable per time. There may be also some other premiums not payable per time, but they can always be reduced to an hourly basis. In this discussion, we shall use only one special premium defined by a definite rate and payable per time. In our payroll we, thus, will use the following classification of wage elements:

1. Regular earnings
2. Overtime premium
3. Night time premium
4. Special premium

Whenever a special premium is introduced, its position in the composition of the wages may be open to dispute. One side may wish to have all other premiums paid on the special premium earnings. The other may wish to pay it on a straight hourly basis without any premium in the base. As regards the payment of the overtime and night time premiums upon the special premium earnings, four variations are possible:

1. No overtime and no night time premium is payable upon the special premium earnings.
2. The overtime premium is payable upon it but no night time premium.
3. The night time premium is payable but no overtime premium.
4. Both the overtime and the night time premium are payable.

Variation 4 destroys the original sense and meaning of the idea of a special premium. If both the overtime and the night time premium are payable upon it, the special premium is transformed into a simple addition to the wage rate,

producing a new wage rate—and the special premium would be eliminated. If one of the first three variations is accepted, the function of the special premium rate is different from that of the wage rate and the special premium holds its individual place in the composition of the wage rate. We will assume Variation 2 for our payroll, a special premium payable on the straight hourly basis plus the overtime premium added to it.

### *The Computation of the Wages*

A payroll is not fully defined unless a precise procedure for the computation of the wages is predetermined. In computation, we can apply the premium rates to the wage rates or to the time elements. Both ways produce the same results. It seems that the choice is ours, but our payroll requires us to produce the four individual wage elements and we must find a way for a direct computation of the regular earnings and the additional premium amounts. Such a direct computation requires us to find the proper time elements which, when multiplied by the wage rates, will produce directly and immediately the required wage elements. In order to state those proper time elements, we have to split the original working time in four separate groups and to total them in each group in order to obtain in each the time which, upon multiplication, will render:

1. The regular earnings
2. The additional overtime earnings
3. The additional night time earnings
4. The special premium earnings

With that aim in mind, we have to tabulate the time elements in conformity with the following principles (assume that the night time premium is 20 per cent):

1. *The daily time* produces a regular earning and a special premium earning.
2. *The daily overtime* produces a regular earning and 50 per cent of it produce an additional overtime earning, and both together (or 150% of it) produce a special premium earning.
3. *The night time* produces a regular earning and 20 per cent of it produces an additional night time earning, and it produces also a special premium earning.
4. *The night overtime* produces a regular earning and 50 per cent of it produces an additional overtime earning. Also 20 per cent of both together produce an additional night time earning and 150 per cent of night overtime produces a special premium earning.

**WAGE COMPUTATION PROCEDURE**

**Assumed Data**

| | | | |
|---|---|---|---|
| DT | 24 hours | Wage rate | $1.30 per hr. |
| DOT | 6 | Overtime premium | 50% |
| NT | 12 | Night time premium | 20% |
| NOT | 4 | Special premium rate | $ .05 per hr. |

**Tabulation of Working Time Components**

| Working time | | Hours Producing Earnings for Wage Elements: Regular | Overtime | Night time | Special premium |
|---|---|---|---|---|---|
| DT | 24 | 24 | | | 24 |
| DOT | 6 | 6 | 1/2 6 | | 6 + 1/2 6 |
| NT | 12 | 12 | | 12 x 20% | 12 |
| NOT | 4 | 4 | 1/2 4 | (4 + 1/2 4) 20% | 4 + 1/2 4 |
| TOT | 46 | 46 | 1/2 (6 + 4) | (12+4 + 1/2 4) 20% | 46 + 1/2 (6 + 4) |

**Computation of the Wage**

| | Time—Hours | | | | Wage or Special Premium Rate $ | Wage Elements $ |
|---|---|---|---|---|---|---|
| Regular earning | 46 | = | 46 | x | 1.30 | 59.80 |
| Overtime premium | 1/2(6 + 4) | = | 5 | x | 1.30 | 6.50 |
| Night time premium | (12 + 1.50 x 4) 20% | = | 3.60 | x | 1.30 | 4.68 |
| Special premium | 46 + 1/2 (6 + 4) | = | 51 | x | .05 | 2.55 |
| | | | | | | 73.53 |

**EXHIBIT 1**

Exhibit 1 is illustrative. With that first wage calculation we have determined, once and for ever, the procedure for the computation of the wages. This procedure is governed by precise rules as follows:

1. *Regular earning*—Multiply the total time by the wage rate.
2. *Overtime premium*—Take one-half of both the daily and the night overtime and multiply this sum by the wage rate.
3. *Night time premium*—Take the night time and add to it one and one-half of the night overtime and multiply this sum by both the per cent of the night time premium and wage rate.
4. *Special premium*—Take the total time and add to it one-half of both the daily and the night overtime and multiply this sum by the special premium rate.

Now we know exactly what our payroll is and what we have to control. In our search for a checking formula, we need to express the wage computation procedure by an algebraic formula and, for that purpose, we shall use the symbols indicated previously and also the following: wage rate: r, night time premium per cent rate: p, and special premium rate: s. The formulas for the four steps therefore, are:

1. Regular earnings: er
2. Overtime premium: $\frac{1}{2}(b + d)r$
3. Night time premium: $(c + 1.50d)\ p\%\ r$
4. Special premium: $[e + \frac{1}{2}(b + d)]\ s$

### Development and Analysis of a Formula for Checking the Payroll

In aiming for a new formula for checking the wage computations, we shall apply elementary algebraic substitutions. The technique we will use will be to develop each member of the original formula in one line. In that development, the position of the elements of each line in the columns has to be governed by the principle of common factors. Then, the columns have to be totalled and the new formula, thus obtained, has to be examined, analyzed and adjusted for our final purpose. The following represents the first steps:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| er | = | ar | + | br | + | cr | + | dr |
| $\frac{1}{2}$ (b + d)r | | | | $\frac{1}{2}$ br | + | | + | $\frac{1}{2}$dr |
| (c + $1\frac{1}{2}$ d)p% r | = | | | | | crp% | + | $1\frac{1}{2}$dr p% |
| [e + $\frac{1}{2}$ (b+d)] s | = | as | + | bs | + | cs | + | ds |
| | | | | $\frac{1}{2}$ bs | | | + | $\frac{1}{2}$ds |

These columns added

$$a(r + s) + 1\frac{1}{2}b(r + s) + cr(1 + p\%) + cs + 1\frac{1}{2}dr(1 + p\%) + 1\frac{1}{2}ds$$

In order to simplify, the above formulas, we will substitute:

$$1 + p\% = k$$

and then the formula will read:

$$\text{Wages} = a(r+s) + 1\frac{1}{2}b(r+s) + c(kr+s) + 1\frac{1}{2}d(kr+s)$$

Comparing both the original and the new formula:

| *Compution formula:* | *Checking formula:* |
|---|---|
| er | $a(r + s)$ |
| $\frac{1}{2}(b+d)r$ | $1\frac{1}{2}b(r + s)$ |
| $(c+1\frac{1}{2}d)rp\%$ | $c(kr + s)$ |
| $[e+\frac{1}{2}(b+d)]\ s$ | $1\frac{1}{2}d(kr + s)$ |

It appears obvious that they are entirely different in their construction and would not be assumed to be the same by anyone without a definite analysis. Before we continue the search for a definite checking method let us first test the new formula which is to supply the basis for the checking method. Let us check the wage computed above. The letter k will have the value of $1 + 20\% = 1.20$

| *Checking with the new formula:* | | *The original computation was:* | |
|---|---|---|---|
| $24(1.30 + 0.05)$ | = | \$32.40 | \$59.80 |
| $1\frac{1}{2} \times 6(1.30 + 0.05)$ | = | 12.15 | 6.50 |
| $12(1.20 \times 1.30 + 0.05)$ | = | 19.32 | 4.68 |
| $1\frac{1}{2} \times 4(1.20 \times 1.30 + 0.05),$ | = | 9.66 | 2.55 |
| | | \$73.53 | \$73.53 |

The result is correct. Each partial computation produces a different partial result. In checking the computation of the wages with the new formula, one part of the aim is reached—no mistake can escape. But the new formula, in its present shape, is rather awkward and affords no reduction in the volume of clerical work and no saving in time consumed. The research has to go on.

Through a short review of the formula, we find that both the daily time and the daily overtime are multipliable by one common factor: $(r + s)$. We also see that both the night time and the night overtime are multipliable by another common factor: $(kr + s) = (1 + p\%)\ r + s$. We immediately understand that our formula shows that the control of the wages of the day shift is separated from that of the night shift, since no common factor or another link is available to bring them into a fixed ratio. We, thus, have to conclude that the control of each shift has to be governed by its own rule.

We also are aware that both of the common factors contain both the wage rate and the special premium rate and we must conclude that, for each wage rate, the variable element in the computation of the wages remains the time. In a preceding paragraph, we have stated that, in the computation of wages with four time elements, 15 different time combinations are possible. But now, for the control of our computation, we no longer have four time elements and 15 time combinations because, for the checking work, the times are separated into two sections and in each section there are only two time elements. With one set of two elements, only three combinations are possible and, in both sections together, only six time combinations or six different cases are possible.

All possibilities have now been traced. We will have to multiply the common factor $(r + s)$ by the three time combinations possible inside the daily shift section of the formula, and we shall have to multiply the common factor $(kr + s)$ by the three time combinations possible inside the night time section. Those six possible time combinations are:

| | | | | | |
|---|---|---|---|---|---|
| DT | DOT | DT | NT | NOT | NT |
| | | DOT | | | NOT |

The following development is based on the fact that, in each of the four members of the checking formula, only one time element is present, and each

member produces the full earnings for one time element. If more than one time element were present in the computation of the wage, the checking formula, in its present shape, requires us to total the earnings for single time elements.

Our next step is now directed to an examination of the six cases just defined. We need to state how the formula will behave in detail in each case and we need to see the position of the common factors in and after each single checking computation:

| *Possible Cases* | | *Checking Formula Results* | |
|---|---|---|---|
| 1. The single time element is | DT | a | $(r + s)$ |
| 2. The single time element is | DOT | 1.50 b | $(r + s)$ |
| 3. The time elements are | DT & DOT | $(a + 1.50\ b)$ | $(r + s)$ |
| 4. The time element is | NT | c | $(kr + s)$ |
| 5. The time element is | NOT | 1.50 d | $(kr + s)$ |
| 6. The time elements are | NT & NOT | $(c + 1.50\ d)$ | $(kr + s)$ |

The situation created by this test invites a further substitution as follows:

$$(r + s) = A \qquad (kr + s) = C$$
$$1.50\ (r + s) = B \qquad 1.50\ (kr + s) = D$$

and the above six results can then be transformed into the following condensed and symmetrical expressions:

| | | | | | |
|---|---|---|---|---|---|
| 1. a | A | 3. $(a + 1.50\ b)$ | A | 5. d | D |
| 2. b | B | 4. c | C | 6. $(c + 1.50\ d)$ | C |

This is the final checking formula. It contains six members which, in a simple and clear way, define six rules, each for one of the six possible time combinations. It may be practical to use the expression "six rules" as a means of communication to refer to the six members of the final checking formula. It is evident that the original two common factors are replaced by four different ones. It would be possible to maintain and preserve the original two common factors, but their preservation in the checking procedure would not help develop a method which, in the final checking work, will require a minimum volume of computations.

### *The Factor Table*

The four factors are represented by the letters A, B, C and D. Factor A is the sum of the wage rate and the special premium rate. Factor B is one and one half of A. To obtain Factor C, we take the night time premium per cent, add one to it and multiply by the wage rate. To the product we add the special pre-

FACTOR TABLE

| Factors → / Rate ↓ | A | B | C | D |
|---|---|---|---|---|
| 1.25 | 1.31000 | 1.96500 | 1.49750 | 2.24625 |
| 1.35 | 1.41000 | 2.11500 | 1.61250 | 2.41875 |
| 1.50 | 1.56000 | 2.34000 | 1.78500 | 2.67750 |
| 1.60 | 1.66000 | 2.49000 | 1.90000 | 2.85000 |
| 1.75 | 1.81000 | 2.71500 | 2.07250 | 3.10875 |
| 1.85 | 1.91000 | 2.86500 | 2.18750 | 3.28125 |
| 2.00 | 2.06000 | 3.09000 | 2.36000 | 3.54000 |
| 2.25 | 2.31000 | 3.46500 | 2.64750 | 3.97125 |
| 2.50 | 2.56000 | 3.84000 | 2.93500 | 4.40250 |

Six Rules For The Use of The Table

| | | | | | |
|---|---|---|---|---|---|
| 1. | If the daily time is DT and there is no DOT | multiply | DT | by | A |
| 2. | If the daily time is DOT and there is no DT | multiply | DOT | by | B |
| 3. | If the daily time is DT and DOT | multiply | (DT + 1 1/2 DOT) | by | A |
| 4. | If the night time is NT and there is no NOT | multiply | NT | by | C |
| 5. | If the night time is NOT and there is no NT | multiply | NOT | by | D |
| 6. | If the night time is NT and NOT | multiply | (NT + 1 1/2 NOT) | by | C |

**EXHIBIT 2**

mium rate. Factor D is one and one half of C. The four factors depend, thus, on the wage rate, special premium rate, per cent for overtime work, and per cent for the night time work. The special premium rate is fixed. The per cent for the overtime work also is fixed and so is the per cent for the night time work. The single variable element affecting the factor is the wage rate. The wage rate is the independent variable. The factors are the dependent variables. However, if there is a single wage rate, the factors are all fixed. For each wage rate, the factors need to be calculated only once. The number of wage rates is usually small. In each business the workers are divided into a few categories. Inside those categories the wages also can vary, mostly conforming to years of employment. Nevertheless, there will be but a few businesses using more than 20 different wage rates at a time. It is an easy job to compute the four factors for each wage rate. In a factory with 20 different wage rates, there can be collected in a single table containing in four columns and 20 lines all possible factors, which would be 80. Such a table can be computed in less than half an hour. The factor table shown in Exhibit 2 is based on the following data. The night time premium is 15 per cent and the special premium rate $.06. To illustrate the computation of the factors for one wage rate, assume a rate of $1.25:

| | | |
|---|---|---|
| $A = r + s$ | $= 1.25 + .06$ | $= 1.31$ |
| $B = 1.50\ A$ | $= 1.50 \times 1.31$ | $= 1.965$ |
| $C = (1 + p\%)r + s$ | $= (1 + 15\%)\ 1.25 + .06$ | $= 1.49750$ |
| $D = 1.50\ C$ | $= 1.50 \times 1.49750$ | $= 2.24625$ |

When such a factor table is available, every beginner can check the computation of the wages. The checking work is in a sense, fully mechanized. No mathematical ability is now necessary. All the checker has to "do" is to read the time on the time cards, put the figure in the calculator, then read the factor

EXAMPLES OF WAGE COMPUTATION AND CHECK

**Illustration 1**

Data:

| | |
|---|---|
| DT | 36 hours |
| DOT | 8 |
| TOT | 44 |

| | |
|---|---|
| Hourly wage rate | $1.35 |
| Overtime premium | 50% |
| Night premium | 15% |
| Special hourly premium | $ .06 |

Computation of the Wage

| | |
|---|---|
| 1. 44 x 1.35 | $59.40 |
| 2. 4 x 1.35 | 5.40 |
| 3. (44 ÷ 4) x .06 | 2.88 |
| | $67.68 |

Checking the Wage

| | |
|---|---|
| (36 ÷ 12) x 1.41 | $67.68 |

**Illustration 2**

Data:

| | |
|---|---|
| NT | 37 hours |
| NOT | 8 |
| TOT | 45 |

| | |
|---|---|
| Hourly wage rate | $1.75 |

Computation of the Wage

| | |
|---|---|
| 1. 45 x 1.75 | $ 78.75 |
| 2. 4 x 1.75 | 7.00 |
| 3. (37 ÷ 12) x 1.75 = $85.75 | |
| $85.75 x 15% | 12.86 |
| 4. (45 ÷ 4) x .06 | 2.94 |
| | $101.55 |

Checking the Wage

| | |
|---|---|
| (37 - 12) x 2.0725 | $101.55 |

**Illustration 3**

Data:

| | |
|---|---|
| NT | 32 hours |
| NOT | 8 |
| DOT | 6 |
| TOT | 46 |

| | |
|---|---|
| Hourly wage rate | $2.25 |

Computation of the Wage

| | |
|---|---|
| 1. 46 x 2.25 | $103.50 |
| 2. 1/2(8 ÷ 6) x 2.25 | 15.75 |
| 3. (32 ÷ 1.50 x 8) x 2.25 = $99.00 | |
| 99.00 x 15% | 14.85 |
| 4. (46 ÷ 4 ÷ 3) x .06 | 3.18 |
| | $137.28 |

Checking the Wage

| | |
|---|---|
| 1. (32 ÷ 1.50 x 8) x 2.64750 | $116.49 |
| 2. 6 x 3.46500 | 20.79 |
| | $137.28 |

**Illustration 4**

Data:

| | |
|---|---|
| DT | 22 hours |
| DOT | 6 |
| NT | 18 |
| NOT | 4 |
| TOT | 50 |

| | |
|---|---|
| Hourly wage rate | $1.85 |

Computation of the Wage

| | |
|---|---|
| 1. 50 x 1.85 | $ 92.50 |
| 2. 1/2(6 ÷ 4) x 1.85 | 9.25 |
| 3. (18 ÷ 1.50 x 4) x 1.85 = $44.40 | |
| $44.40 x 15% | 6.66 |
| 4. 50 ÷ 1/2(6 ÷ 4) x .06 | 3.30 |
| | $111.71 |

Checking the Wage

| | |
|---|---|
| 1. (22 ÷ 1.50 x 6) x 1.91 | $ 59.21 |
| 2. (18 ÷ 1.50 x 4) x 2.18750 | 52.50 |
| | $111.71 |

**EXHIBIT 3**

on the factor table and put that in the calculator. The result will verify the computation—or indicate a mistake. The only "mental work" which the checker has to do is to add to the hours of a daily time one and one half of the hours of the daily overtime, and the same for the night time section. He will do his job with no mental strain and with no worry or fear of failure and so will enjoy it because of a feeling of assurance. No wise management should disregard the beneficial effect of such a psychological detail.

It may be necessary to find addititonal factors. Payroll regulations are found in very many variations. Each variation in the wage computation requires another factor table. If, for example, the incentive embodied in the special premium is based on the attendance frequency, two different special premiums may be payable, each to separate group of workers. Then two different factor tables would be required. If different premiums are established for the second and third shift, it will never happen that a group of workers will be employed during one payroll period on all three shifts, but it will happen that they will be employed on two shifts, changing the shift at times not coincident with the payroll period. In such a situation, three factor tables, each for a combination of two shifts, will solve the problem.

If the night time premium is not defined in terms of a per cent but on a time basis, the per cent rate would be replaced by an additional night time rate, allowed only for the night time and night overtime. If payroll regulations should impose a more complicated wage computation through some additional wage element, the search for a factor table would have to follow the same methodical way described. It is always possible to develop a checking formula, different from the wage computation, and to separate the variable from the fixed factors. The factors for the table then appear nearly self evident.

### *Time Savings Prove Worth of Procedure*

Four examples of application of the method described are given in Exhibit 3. The illustrations speak for themselves and their enormous time-saving effect is obvious. The time necessary to check the computation of wages by this method is no more than half of the time otherwise necessary and, if large groups of workers are employed only on one shift during one working period, the time saved is far higher. After a short time, the checkers learn the most commonly used factors by heart and develop an almost incredible speed in their work. The method described is, of course, more valuable in the more complicated wage computations, but the availability of a factor table of the type developed is of definite advantage even if the simplest possible payroll is in use.

## A SMALL COMPANY BILLING PROCEDURE

by Virginia Gaffney*

THE ARTICLE, "Efficient Accounting For the Small Company" by Iris P. Berst, which appeared in the *Bulletin* nearly a year ago, was of particular interest to me, since it brought to mind a subject which I have always considered of utmost importance to everyone in the accounting profession. Although large companies form the trunk of the economic "tree," a tree is not complete without its branches. A good thing for us to remember is that the majority of us still, and always will, derive our income from the small company, ranging from the cabinet maker to the home builder. The man or woman who decides to enter the field of accounting should, therefore, first recognize the responsibility of the accounting profession to the business world as a whole.

With the ever-increasing use of machine bookkeeping in small businesses, as well as in larger industry, the accountant today must be able to recognize management's needs and then plan procedures to supply this information efficiently. Often a machine is considered the answer to an overload of work in one particular operation. However, after an analysis of the operation, it may be found that this overload can be eliminated by other methods. An experience which I have had in this connection was in regard to invoicing and processing of invoices. A small manufacturing firm which handled a large number of items had been listing and extending each item on the customer's invoice. This entailed a great deal of typing and computation, since there could be from 50 to 100 items on one invoice and each item was priced separately. Top management thought the solution would have to be to acquire automatic billing machines. The accounting division heads decided that a more efficient method of order processing and invoicing was the answer, instead of additional equipment.

Orders are mailed to the home office by the field salesmen. The order form is preprinted, indicating quantity ordered, item, retail price and wholesale price. Under prior procedure, the salesman merely listed the quantity of each item ordered. (The company was using a four-part order form, one to the customer, one remaining with the salesman, one retained in the shipping department and the other sent to the invoicing department after shipment). The invoice was then prepared and each item listed and extended by the billing typist. Before the invoice was mailed, the computation was checked by a comptometer operator. This operation was handled by a billing department of 6 typists and one comptometer operator and the average daily output of invoices was 500.

It was decided to use a five-part order form and provide space so that the salesman could compute the amount of the order. When the order was received at the home office for shipment and invoicing, two comptometer operators then checked the orders for computation errors and noted corrections on the order. The extra copy which had been added to the order form was retained by the billing department until receipt of shipping order indicating shipment had been made. The invoice was then typed, merely indicating "items per attached order" and the total amount of the order. The copy which had been retained by the billing department was attached to the customer's invoice and the copy received from the shipping department indicating shipment had been made was attached to the office copy of the invoice. The typing time was drastically reduced so that that it now requires only two full-time billing clerks. This development eliminated additional capital outlay for a billing machine.

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# *Plant Re-Location Expenses— Identification and Control*

by A. R. McMURRAY

THE PHENOMENAL GROWTH OF AMERICAN BUSINESS since World War II has forced many companies to expand physical facilities. Some firms have met this need by building additions to an existing plant. Other companies have been compelled to abandon a location because the limitation of space made further additions impractical. The necessity to move is becoming increasingly common as rapidly growing communities envelop factory sites which only a few years ago remained aloof from the city. For a variety of reasons, the preparation for a moving venture is a task which a substantial number of business firms may face in the future.

Currently the Meredith Publishing Company is planning just such a relocation. Several plant additions since 1941 have all but exhausted the present site. Management, realizing that continued growth is possible only in a new location, has decided to make this move now rather than risk the cost of further inflation. The final decision to relocate was made after months of careful study and deliberation. Anticipated volume levels and increased efficiency had to justify the cost of a new plant and additional equipment. An extremely vital consideration to the decision was the estimated cost of moving the present equipment to the new location. Obviously, an expense of this nature often can prove prohibitive to a large manufacturing company.

Having established the feasibility of relocation, the task before management becomes one of maintaining control of actual costs. The degree to which the control is exercised will have a profound effect upon the ultimate profitability of the decision to move. Preparation for the control of the moving expenses demands special attention because, as in our case, it often will be conducted by an internal engineering and labor force. In this article, I shall examine several general areas which must be considered for the successful control of a major moving project.

First, it should be noted that the phrase, "control of moving expenses" is a very expansive one. Provisions for good control include:

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1. A detailed analysis of the staff and strength of the organization to assure that planning procedures are undertaken by the appropriate department.
2. A close but flexible scheduling of the move to assure adequate productive output.
3. Consideration of the temporary additional costs during the transition period.
4. An inventory and valuation of the equipment to be moved and methods to identify the assets leaving the old building.
5. Calculation of the tax implication of the move and its effect on earnings.
6. Preparation of the accounting procedures to deal with the additional expenses, together with a definition of what is to be classified as a moving expense.
7. Development of an effective reporting system.

Failure or neglect on any one of these functions could vitiate an otherwise carefully planned budget, with resulting loss of control.

### *Planning the Move: Scheduling, Budgeting, Control*

The complexity, bulk, or mere number of items to be moved will create problems in control for any company, but the situation may be complicated by the absolute necessity to maintain continuous production during the moving period. Publishers of periodicals are an obvious example in this category because the regular flow of magazines to subscribers must be maintained. Other companies facing this problem would include producers of perishable goods or manufacturers of products which depend upon current fashion designs. The impossibility of stockpiling the product is the common element in each of these examples. For them, uninterrupted production may be necessary to fulfill contractual obligations or to maintain a share of the market.

Development of a detailed, day-by-day moving schedule is one practical method to ensure adequate productive output during the transition period. The difficulties in predicting volume levels, the delays and uncertainties of constructing a new plant, and the likelihood of policy revisions complicate the work of the schedule-makers and require that a moving plan be adaptable to any number of contingencies. To provide a measure of flexibility, several schedules may be needed, each one developed within the framework of different assumptions. For instance, schedules based upon two or more volume levels or upon different completion dates of the new plant could be supplied. Moreover, manage-

ment could be considering the purchase of additional equipment which would obviate the moving of older items. Consequently, preparation for good control requires that schedules be available to meet several possibilities.

Actual moving days for each piece of equipment should be designated so that total capacity of the equipment remaining in operation will fulfill the predicted monthly production requirements throughout the moving period. These figures can be based on forecasts submitted by the sales department, past experience as to peaking factors, and engineering estimates of the running capacity of each machine. Provision must be made for the time lost in moving a machine and the anticipated delay in putting it back into maximum running capacity after installation. The schedules should permit the required level of production, provided that estimates and assumptions equate with actual conditions and the cooperation of the entire staff is obtained. The importance of this phase cannot be overemphasized, for failure to provide an adequate schedule could force a company to subcontract its product to an outside firm, often an expensive alternative with resulting loss of control.

A cost figure should be budgeted for each detailed step in the moving operation based upon estimates of the engineers. Each step will also become a job order to initiate the moving action. As the actual expenses are collected by job order, they can easily be compared with the budget, which will provide a check on the control of the operation. A budget of a different nature can be established to control the additional operating expenses resulting from a staggered moving schedule. For instance, operating in two plants will involve the additional cost of transporting semi-finished goods to the location of subsequent operations. Extra supervisory and maintenance personnel and some idle direct labor may be required during the period of this split production process. These expenses will be estimated by the engineers for each cost center and then submitted to the company's budget committee for approval. Actual control can be exercised by designating a cut-off-date to avoid the fatal error of permitting temporary expenses to become incorporated as normal expenses.

Aside from careful scheduling and planning for financial control of the moving program detailed records must be kept of the equipment being transferred to the new plant. The engineers can prepare a three-dimensional model of the new plant showing the eventual location of all the equipment, ranging from the largest equipment down to the waste containers. This model will enable both the technical and non-technical personnel to visualize where the items are to be placed. All equipment to be moved from the present site should be inventoried, specifically identified, and tagged with its accounting number. This number, representing each piece of equipment, will be entered on the appro-

priate location on a detailed floor plan of the new plant. Thus, before any physical move is undertaken, the company will have an adequate picture of what is to be moved and its precise destination.

### *Planning the Accounting Treatment*

Before the physical move occurs, the financial control department must carefully plan for the accounting aspect of the moving expense. This plan must include a pre-conceived policy indicating which costs are to be included as moving expenses; it must provide an appropriate chart of accounts to handle the actual accumulation of costs; decisions must be made concerning the final treatment of the expense on financial statements and, finally, a system of reporting must be developed to insure maximum control to each responsibility level of management.

The definition of moving expenses can be an elusive problem and, in some instances, rather arbitrary decisions must be made. Some expenses, such as dismantling of equipment, transporting it to the site, and the subsequent reassembly operations, are obviously moving costs, but others—and we term these fringe costs—are not so easily classified. There are several important reasons why these fringe costs need to be recognized and anticipated. For one thing, the accounting treatment will affect the financial statements and tax liability. Secondly, a pre-conceived plan to handle the expenses will facilitate the mechanical accumulation of the charges, thus expediting the accounting function. Thirdly, proper treatment will enhance the effectiveness of control. Finally, an accurate financial record for future reference may be desired.

Before addressing ourselves to some of the specific problems involved with what I have designated as fringe costs of the moving operation, it should be noted that their treatment will be affected by several different considerations, some of which may conflict with one another. Among the most common are the following:

1. The first consideration will be adherence to sound accounting principles.
2. Where good accounting practices permit the use of alternatives, the tax implication may govern the treatment.
3. Facilitating maximum control must always be borne in mind.
4. Clerical expediency will often be a factor.
5. Finally, a company's decision as to whether to capitalize the moving expenses or to charge them off in the year incurred may suggest a solution in some cases.

### Closer Examination of the Fringe Costs

One broad area of fringe costs includes modifications, repairs, and replacement of equipment during the actual moving period. For instance, what is done with the cost of a necessary alteration to a piece of equipment to make it adaptable to the new location? There is a fine line here, but brief reflection will point up the fact that modifications of this kind result not because of the moving process itself but because management chose to locate in a new plant. Its nature is analogous to an installation charge because it represents the additional cost of putting the asset into operation after moving expenses of dismantling, transportation, and reassembling. Aside from the logic of the matter, which is admittedly hair-splitting, there would be danger in expensing such a modification if a company were planning to charge moving expense off in the year incurred. Good accounting principle would demand the capitalization of this expenditure on the grounds that the assets were improved—or perhaps on the grounds the equipment was made applicable to another use. One tax authority has recently demonstrated that, where capital expenditures and expenses are not clearly separated in a given project, the courts have ruled that everything would be capitalized ("Moving and Rearrangement Expense" S. B. Palley, *Taxes*, March 1958).

In the case of repairs (here by definition an expense rather than a capital expenditure), consideration must be given to the origin of the need for the repairs and the size of the expense involved. If equipment were damaged by the consequence of the move, then it can be charged as a moving expense. If the repair does not arise as a result of the move, its inclusion as a moving expense may so cloud the moving accounts that good control may be sacrificed. On the other hand, if the repair bill were small and almost incidental to the move, clerical expediency could dictate its classification as a moving expense. Following the same reasoning, replacement of equipment during the transition period should not be termed moving expense unless needed to replace items damaged by the move.

Another fringe area to be anticipated are those additional expenses arising from reduced efficiency occasioned by the transition or from temporarily running a split production operation. For instance, a shutdown of a production unit may idle some skilled employees whom, for one reason or another, it is not feasible to lay off. Two possibilities exist for handling this expense. The cost of idle labor may be charged to the production of the period—running it through the inventory accounts on the theory that it was a direct cost of current production—or it may be charged to the special moving expense account.

It is suggested that the latter method more nearly reflects the true nature of the expense and would avoid confusing the manufacturing cost (hence, control) of the normal production operation. Then, too, "selling" idle time to the inventory accounts may have the effect of distorting financial statements. In the case of other inefficiencies, such as excess wastage and set-up costs directly resulting from the move, the theoretical arguments for charging them to the moving costs are the same as above. However, in actual practice, it may be impossible to separate many of them from the normal operation, thus necessitating their inclusion in the current production cost. Whatever procedure is selected here, the important consideration is, of course, consistency.

One other related example would be the necessity to hire extra supervisory or other personnel to operate two productive plants during the transition period. This situation presents a slightly different problem from the case of idle direct labor. Unlike idle labor, the additional personnel are a technically necessary expense to production during the period, and so it might be argued that production should absorb the cost. Notwithstanding this, additional personnel were hired only because the moving process was under way and, as such, are a direct expense of the move. Now, theoretically, the whole expense of moving is incurred to increase or at least sustain future income. In this light, the cost of extra personnel would seem to be not so much a contribution to current production as a kind of investment to make additional income possible for the future. Consequently, this kind of expense may be charged to the moving accounts when clerically feasible.

The fourth area would be the acquisition of assets primarily to perform the move. Items in this category might include trailers or lift equipment. If the equipment will be virtually idle after the move has been completed, its cost, less resale value, would theoretically be a direct moving expense. However, bookkeeping expediency and regard for what is permitted by the federal tax laws would require segregating these capital expenditures from ordinary moving accounts. Amortizing the costs through the moving accounts, with a need for subsequent reconciliation of the reserve for depreciation, would hardly be worth the trouble and expense. Just as in the case of the expenses, there will be some assets purchased to maintain production in the two locations during the transition period. However, the likelihood that items such as material handling equipment, time clocks or machine tools can eventually be used to replace older equipment justifies their separation from the moving expense in theory as well as in practice.

How to handle planning, engineering, and administrative expenses relating to the move presents another rather hazy area. An attempt to segregate the

time spent by engineers and executives on the moving phase would not only prove clerically impracticable but would illogically reduce the general administrative expenses charged to revenue during the period. Generally speaking, engineers and executives are compensated for work and planning which may include any number of operations of this nature. In this respect, the moving program is no different from other kinds of business planning or technological research. Therefore, when these expenses consist largely of the salaries of participating personnel, they need not be considered as moving expenses. On the other hand, if the pressures of the program force staffs and departments to temporarily increase their strength by significant amounts or if outside consultants are called in, then the additional expenses properly can be charged to the move.

All costs finally defined as moving expenses should be accumulated separately from normal operating expenses. As pointed out previously, separate accumulation is fundamental to good control on both the normal productive processes and the moving program.

### *Financial and Tax Accounting Considerations*

Another planning decision involves the treatment of moving expenses in the annual statements. Shall they be charged to year of occurrence or capitalized and subsequently amortized? The decision has important consequences because of the tax implication and because of its effect on the earnings report of the company.

Amortizing the cost over a period of years is usually not so profitable as charging it to the year incurred. Of course, by amortizing the cost, the company will forego the use of the funds made possible if a quick write-off were employed. Funds obtained from tax savings will often be at a premium in the year immediately succeeding the move because the company may already have incurred excessive capital expenditures. Moreover, a quick recovery of capital reduces the risk that full recovery may not be possible, i.e., if serious doubt exists about whether to capitalize an expense or charge it to income, it may be advisable to expense the item. If subsequently disallowed by the Internal Revenue Service because it should have been capitalized, then it can be amortized. If, however, the item were capitalized and then later ruled as a necessary and deductible business expense, the tax year may have closed and total recovery becomes impossible.

On the other hand, moving expense may be of such magnitude that writing it off as incurred may seriously depress the company earnings figure throughout the moving period. If reasonably stable earnings are desired to protect the

stockholders' investment or to insure success in the capital market, then amortizing the expense over a period of years may offer the best solution.

One tax authority (S. B. Palley, previously cited) has recently written that, generally, the cost of moving from one plant to another is deductible as a necessary business expense so long as the move does not prolong the life of the assets or make them adaptable to another use. If, however, moving expenses are so related to capital expenditures that they are an integral part of the improvement, then they should be capitalized. Accounting authorities are in general agreement with this tax treatment. Newlove and Garner state that moving expense can be charged to income or surplus if the use of the assets is not made more effective by the move. (*Advanced Accounting*, Newlove and Garner, D. C. Heath & Co., Vol. I pp. 295-6.) There is no question as to whether the expense should be charged as a period or as a product cost. The literature is unanimous in declaring that moving expenses should be charged to a period rather than carried into the inventory accounts.

### *Accumulation of Actual Expense; Reporting*

Fundamental to preparing for the control of moving expenses is the provision for adequate reporting. If this area is neglected, a very important segment of the accounting function is lost and good control becomes difficult or impossible. The concluding portion of this article will deal with the source of these reports, what the reports should contain, their frequency and destination and their purpose.

A moving expense account should be set up and subdivided by cost centers. For instance, each of our large presses, the bindery department, the composing department, etc., will be assigned a separate account number. It was previously suggested that each cost center or department should be subdivided further into preconceived steps, designating the dismantling phases, the transportation and the re-assembly operations. Each of these steps, their costs having been estimated and budgeted, will become a job order initiating the moving action. A special job order series should be set aside for exclusive use in the moving program to permit numerical sequence within each control center. Where they can be isolated, the moving expenses will be accumulated on job orders which, in turn, will be charged to the cost center moving accounts.

Each week the labor tickets will be summarized and a report printed by the tabulating department listing the moving job order expense by job number and by account number. The report will show the total budgeted labor hours. The report will also indicate the actual labor cost to date and the actual number of

hours. Corresponding actual to budget ratios for both cost and hours will also be shown on the report. Expenses other than labor may be included in the report, depending upon the detail with which the job order budget has been prepared. For instance, if the allowances have been stipulated for supplies or repairs arising from the moving process, then the actual to budget comparison for these items may be contained in the weekly report.

These reports should be distributed to the operating levels of the program (in our case to responsible persons directing the maintenance and other indirect labor crews) and to the department responsible for control (engineering). At these levels, the reports will serve three purposes:

1. Point up trouble areas where costs appear to be excessive.
2. Provide a progress report indicating how the move is coming along with respect to the over-all schedule.
3. Constitute a basis for making adjustments to the budget of future job orders to further narrow the control procedure.

Speed is more important than minute accuracy to make these reports effective. They should be in the hands of interested departments as soon as it is clerically feasible. Hence it may be necessary to go ahead and issue the report before changes arising from payroll audits have been incorporated.

Reports of a slightly different nature should be made available monthly to top management. They should consist of a list of the job orders completed during the month, together with a comparison with the budgeted amount per job order. All completed job orders will be grouped according to cost centers, totaled, and compared with the anticipated cost of moving the entire cost center. In this manner, top management has ready access to the over-all progress of the program, together with a knowledge of how the expenses are faring. Statements on certain fringe costs already discussed can be handled through a special monthly report. If the cost of idle direct labor, extra supervisory personnel, etc., is to be carried into the moving expense accounts, it should be reported to the respective production departments and the department responsible for directing the move. The monthly totals can be compared with the amount previously budgeted to each cost center. The report should point up areas where this kind of expense can be minimized.

The effectiveness of a reporting system is not necessarily governed by the amount of detail or the number of documents flowing from the accounting department but, instead, by the usefulness of the information which is supplied. It might be pointed out that, in the planning stage, it is not always possible to predict exactly what kind of information will best serve management's needs.

Therefore, as the moving program develops, it will be the continuing responsibility of the accountant to see that his reports keep pace with the possible changing demands of management.

### *Profits Are Involved*

This article has attempted to point out the many functions necessary to provide good control for a major relocation. Success in controlling the moving expenses will depend upon the activities and judgment of the many participating departments. The organizational complexities and the need for cooperation in a project of this scope are obvious. While recognizing its relationship to these over-all considerations, I have purposely emphasized the role of the accounting function in the planning phase. What costs are to be considered moving expense, their final treatment on financial statements, and the kind of reporting to be supplied are decisions and functions which will affect the profits of the firm just as surely as will the efficiency with which the actual physical move is conducted.

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## AUTHOR, AUTHOR

By W. G. Holman*

The problem of getting each manager to give the budget program his honest and enthusiastic support, both in the preparation of the estimates and in his follow-up study and action, has many facets. One of these that can be employed to advantage is that of pride of authorship. A man will go out of his way to make a plan work if he feels that it is his own creation rather than something that has been forced upon him. He can often find ways and means of effecting savings that the "front office" would never dream of.

Generally this can be accomplished by telling him, when you supply him with pertinent data, that you think that he might be interested in having the analysis as background information in making up his estimates. These data might include such items as labor standards developed by your industrial engineering section, market analyses, historical accounting reports, trade association reports, etc.

It is, of course, the duty of the budget administrator to make sure that the submitted budgets are reasonable and that they co-ordinate with the other budgets to give a satisfactory result. This may necessitate conferences with each manager in which he must be told as tactfully as possible that he must justify his figures or revamp them into something that he can substantiate. However, the emphasis should still be, even at this point, on the fact that the manager, whether superintendent or foreman, is preparing and submitting the figures. He must be willing to be judged against the result.

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# Which Approach to Lifo Valuations?

by RALPH M. MARSH

WE LEARNED IN ACCOUNTING courses that the last-in, first-out method of pricing inventories is acceptable in determining inventory cost. A major advantage of the method was given as the close matching of current costs with revenues. We readily understood the illustrations, expressed in units of inventory, which illustrated how the costs of the latest units purchased or manufactured were charged against sales and the costs of the earliest units remained in inventory. The cost-revenue matching was obvious.

## Development of "Lifo" — The Unit and Dollar Value Methods

In practice, the first businesses to adopt the "lifo" method followed the same mechanics as were used in our classroom illustrations. Inventories listed in units were priced at "lifo" historical costs, item by item. It was natural, then, that these first companies all had one common characteristic in their inventories, a relatively small number of different inventory items with a large quantity of each. Otherwise the computations would be too voluminous and costs of computation would offset advantages gained.

But what about other companies? If the principal is sound, why should the advantages (including tax advantages, whether considered "temporary" or "permanent") be denied on the basis of the industry's inventory characteristics. Must inventory accounting methods differ between the leather tanning and automobile industries, for example? Must the automobile manufacturer keep voluminous records of costs of each part, sub-assembly, assembly and complete model in order to use the "lifo" method?

The solution was, of course, the use of the dollar-value technique in determining "lifo" inventories. Instead of measuring cost changes of many individual items and determining the "lifo" cost of each item as if it were a separate inventory, this technique attempts to determine the cost change of larger groups of inventories on a combined basis through the use of price indexes. The advantages of reduced record-keeping requirements are apparent.

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The index techniques was first applied to retail method inventories. Indexes of price changes in retail merchandise are developed by the Bureau of Labor Statistics for specified groups of merchandise. The break-down of the groups is made on a broad departmental basis with a sufficient number of "groups" or "pools" to meet the Internal Revenue Service's requirement that all items in a pool have relatively homogeneous characteristics. The B. L. S. indexes may not actually reflect the price changes of a specific individual business but are accepted as representative of the industry. Presumably the published index is reliable because of the simple buy-and-sell functions of retail merchandising and the similarity of inventoriable items throughout the country.

Again, it is easy to understand, by illustration, the application of the retail dollar-value "lifo" method in practice. If a class of merchandise aggregating $110 at current cost has an index of 110, then the base "lifo" cost of the inventory is $100. The current cost is charged against sales for the period. The results are not affected by efficiencies in operation and presumably only slightly by changes in the underlying character of the goods.

Tax advantages are more easily retained in the retail "lifo" method than in the unit method because of the greater flexibility of the broader inventory pools. Base inventories are more easily maintained when, for example, many types and styles of men's clothing are combined in one pool's base than when each type of manufactured part or raw material constitutes a separate "lifo" base, as under the unit method.

### Dollar-Value "Lifo" for the Manufacturer

But still, how about the manufacturer of a complicated product? Why not adapt the index method to his inventory? In more recent years this has been done and accepted. It is dependent only upon developing acceptable indexes of change in inventory. There are some B.L.S. indexes of manufactured items and raw materials which can be used in the same manner as the retail indexes. However, the manufacturer must "prove" their applicability to his own inventory. In practice, there are probably few attempts to relate the manufacturer's inventories to published indexes. Instead the manufacturer develops his own index by "double-pricing" a percentage of his inventory at both current and base prices. A "chain index" approach may be used as a practical variation of the double-pricing.

Given a reasonable index for price changes, it appears that the effect of dollar-value "lifo" for the manufacturer is no different than that of the retail dollar-value method which, we have reasoned above, has the same effect as the unit method. Latest costs are charged against latest sales. But is this really true? Do the popular

mechanics used in computing dollar-value "lifo" indexes of manufacturers modify the results? Can they change "lifo" through the price-change concept from a pure cost concept to a method which does more than charge current costs to operations? An answer might be found with a class-room illustration.

Assume that a manufacturer begins with one item in inventory, produces one of the same item, sells one and, consequently, retains one in inventory at the end of the year. Assume, also, that the following changes occurred in the costs of production of the item during the year (Although they appear extreme in the illustration, such changes are possible during long periods between base years and inventory dates):

| | |
|---|---|
| Base costs: | |
| Labor—4 hours @ $1.00 | $ 4.00 |
| Burden—100% | 4.00 |
| Material—10 lbs. @ $1.20 | 12.00 |
| Total | $20.00 |
| Current costs: | |
| Labor—2 hours @ $1.50 | $ 3.00 |
| Burden—200% | 6.00 |
| Material—10 lbs. @ $1.50 | 15.00 |
| Total | $24.00 |

If this were actually the only item in inventory, the calculations would be simple and allow the use of the unit method with the following results:

| | |
|---|---|
| Begin inventory | $20.00 |
| Production | 24.00 |
| | $44.00 |
| Cost of sales | 24.00 |
| Ending inventory at "lifo" | $20.00 |

However, if the manufacturer actually produces thousands of items and the unit method is not feasible, the mechanics for use of the dollar-value method must be considered. It was stated that the retailer enjoys an advantage over the unit-method taxpayer because the retailer's base is normally divided into fewer parts. Most retailers use the categories or "pools" specified by the Internal Revenue Service. Other dollar-value taxpayers may enjoy more or less advantage in base retention ability, depending on the pooling method and the number of pools, but each taxpayer must support the reasonableness of his particular pool breakdowns.

### *The Pooling Problem*

Realizing the possible dangers of careless pooling, our taxpayer analyzes his inventory. He would like to have only one pool, as is currently being suggested by the most sophisticated "lifo" exponents. This would eliminate the problem of mix and isolate the problem of base layer retention to volume changes only. And why shouldn't dollar-value "lifo" be based upon a single pool? Isn't it an inherent purpose of dollar-value "lifo" to remove the effect of price changes from the total dollar investment in inventory and from all costs of shipments? Should change in inventory mix be allowed to negate the effect of this purpose?

Take the example of the fashion apparel manufacturer whose conception of raw material can fluctuate violently

from wool to synthetics and back to wool again. On the second time around is it correct to price the wool at current prices because of a temporary liquidation from the whim of fashion?

Assume the complete liquidation of a product line the "lifo" cost of which is 75 per cent of current cost, with substitution of a new and different product. Separate pooling would suggest that the company has earned the 25 per cent and the results of operations would so indicate. The sales dollars would be inflated from the base date but the cost dollars would not. Is this really matching costs with revenues? Must we start up a new "lifo" cycle each time product line modification occurs? It may not be entirely consistent with the going-concern concept, because our dollar inventory investment requirement has not changed. Why change the size of the dollars we are using to measure the costs to be charged against revenues from this one year?

The combination of all inventories in one pool should not affect the validity of the price-change index if a sound statistical sample, which gives proper weight to all components, is used. Certainly complete double-pricing would result in the same inventory at base dollars, whether the pools number 100, 50 or 1. Why measure increment against only pieces of the inventory investment? Perhaps there has been a failure to recognize the broader price change concept of dollar-value "lifo" as a acceptable vehicle for presenting operations in more uniform dollars for both sales and costs. At any rate, the single-pool concept is not yet accepted by the Internal Revenue Service.

So our taxpayer has the problem of selecting as few pools as can be justified and must divide his inventories in a manner to obtain the best estimated long-range advantage. Suppose the break-down is made according to product lines. Our taxpayer has a rather large portion of inventory in a product line which he intends to discontinue sometime in the future. The substitute product will require the same materials and similar manufacture but will have an entirely different size and end use. With the expectation of continued inflation (a reason for his adoption of "lifo") a significant loss of base advantage would result when the old product is abandoned. The components in the new product would be inventoried at higher prices, despite their similarity to the old.

So the decision is made to cut the inventory the other way. Why not break all inventory into its direct and indirect cost components—material, labor and burden? Perhaps a single material pool can be justified and, certainly, labor and burden are logical pools. This would improve the probability of retention of base inventory layers. Regardless of change in production lines, all will continue to have these basic cost components.

### *Obtaining An Index — Cost and Price Approaches*

Having selected the pooling basis, a "lifo" figure must be obtained for each pool, just as for each item under the unit method. Herbert T. McAnly has stated the objective as follows in an article in the May 1958 issue of the *Journal of Accountancy:*

> "The objective is to express the ending inventory at the beginning-of-the-year cost price levels of materials, labor and overhead. In many cases, it is practicable to extend the quantities on hand at the end of the year—of each raw material, production in process and finished product—at the beginning of the year cost price levels. Compare the grand total of the ending inventory thus expressed with the ending inventory total computed under "fifo" on the latest cost basis. The difference between these two totals represents the price increase in the ending inventory priced on a "fifo" basis.
>
> If the total of the ending quantities, priced at the beginning cost prise levels, does not exceed the cost price of the beginning inventory, this total would represent the true "lifo" cost assignable to the year-end inventory."

In our earlier illustration, the combined "double-pricing" of the ending inventory of $24 appears to result in a total of $20 at the beginning-of-the-year "cost-price" levels. The index would be 120 and the effect would be exactly the same as in the unit method. The dollar value concept continues to be as easily understood as the basic unit method. However, in one of the few published expressions of support for departure from the "cost" approach to the "lifo" index, Mr. McAnly states in the same article that:

> "It is important, in the development of this index of price change, that *reductions in unit cost of manufactured items due to other than price reductions not be permitted to offset price increases.* Thus, the quantity of an item of finished product in the ending inventory should be extended at the current and at the beginning-of-the-year cost price levels of materials, labor, and overhead for the quantity of materials and processing hours called for in its current processing specifications." (*Italics supplied*)

This is the "price approach" which is to be found in practice in most recent "lifo" elections. To see some differences between the cost and price approach, let us apply both to the labor pool in our example. Under the cost approach, the total labor in the ending inventory would be compared with the equivalent total for the same item in the beginning inventory:

| | |
|---|---|
| Ending—2 hrs. @ $1.50 | $3.00 |
| Beginning—4 hrs. @ $1.00 | $4.00 |
| Index | 75 |
| "Lifo" valuation ($3.00 ÷ .75) | $4.00 |

The total cost of the latest item ($4.00) is charged to cost of sales and there is no change from the unit

method. However, the price approach assumes that "efficiency" reductions in cost should "not be permitted to offset price increases". Thus the price approach calculation can be:

| | | |
|---|---|---|
| Ending labor rate (price) | | $1.50 |
| Beginning labor rate (price) | | $1.00 |
| Index | | $1.50 |
| Ending inventory at current prices | | $3.00 |
| "Lifo" valuation ($3.00 ÷ 1.50) | | $2.00 |
| or: | | |
| Beginning inventory | | $4.00 |
| Production | | $3.00 |
| | | $7.00 |
| Cost of sales: | | |
| Current cost— 2 hrs. @ $1.50 | $3.00 | |
| Efficiency saving— 2 hrs. @ $1.00 | 2.00 | 5.00 |
| Ending inventory | | $2.00 |

It may appear inconsistent that the operating period during which the efficiency occurred is bearing an additional charge *because* of the efficiency! Is this the matching of costs with revenues? A similar effect can result in the application of the price approach to material pools if there is an efficiency in the usage of materials. Of course, the opposite effect occurs during a period of increasing inefficiency.

In support of the price approach some exponents might properly declare that "lifo" is a "cost or market" method, market being the lower of replacement cost or net realizable value. Further, in this instance, replacement cost is two hours of labor. On a "lifo" labor rate basis, these two hours have a unit "lifo" cost of $1 each. Therefor the "lifo" replacement cost is $2. It is not the purpose of this article to analyze that argument or to state what factors or timing are involved in the determination of market.

Also, even in some unit method calculations, the efficiency saving is removed from the inventory accounts, most frequently in the earlier "material only" elections. The paper manufacturer usually converts the pulpwood content of in-process and finished paper on the basis of current usage. So does the sweater manufacturer when determining yarn content. If current usage reflects more efficient yield, it is this usage which is priced at "lifo" prices without regard to former less efficient yield factors. Why should the dollar-value taxpayer be any different? Furthermore, the dollar-value taxpayer presents his inability to identify units as a principal reason for using the dollar-value method.

### Approaches to the Burden Index

What about burden? If there is an efficiency in direct labor, is there not an offsetting inefficiency in burden? In actual performance this may be true, if more burden is required by a technological change which reduced the direct labor hours. However, if "lifo" burden is obtained by the application of the "lifo" burden rate (usually based on labor hours or labor dollars) to "lifo" labor, then the effect of the price

approach is compounded, despite the apparent inefficiency. Again, in our illustration, the cost approach to the "lifo" determination of burden would be:

| | |
|---|---|
| Beginning inventory | $ 4.00 |
| Production | 6.00 |
| | $10.00 |
| Cost of sales | 6.00 |
| Ending inventory at "lifo" | $ 4.00 |

In casting around for a method of determining the burden index, we might choose to double-price the underlying burden items (indirect labor, supplies, rent, etc.). If there were no change in the "quantity" (i.e. indirect labor hours, pounds of supplies used, square feet rented) of these items in our illustration, we would arrive at a 1.50 index ($6.00 ÷ $4.00). The result would coincide with the cost approach. If there had been an increase in quantity of burden, the index would be somewhat lower than 1.50, say for example 1.20. This would appear to be a price approach and the resulting $5.00 "lifo" valuation ($6.00 ÷ 1.20) would actually offset inefficiency against efficiency. However, the double-pricing of underlying burden items is difficult and may be overly arbitrary for such items as depreciation, insurance, etc. So other mechanics are more popular, frequently comparisons of average applied rates at the base and inventory dates.

One seemingly logical "burden rate application" is sometimes suggested which compounds the effect of the "efficiency charge-off." Since the beginning burden rate was 100% of direct labor dollars, why not use that in determining the "lifo" cost? Complicated formulas have been developed but they often simply result in such rate application. Also, the result is comparable whether labor dollars or labor hours are involved:

| | | |
|---|---|---|
| Ending labor at "lifo"— 2 hrs. @ $1.00 (price approach) | | $ 2.00 |
| Base burden rate | | 100% |
| "Lifo" valuation | | $ 2.00 |
| or: | | |
| Beginning inventory | | $ 4.00 |
| Production | | 6.00 |
| | | $10.00 |
| Cost of sales: | | |
| Current cost — $3.00 labor × 200% | $6.00 | |
| Base burden applicable to labor efficiency — $2.00 labor × 100% | 2.00 | 8.00 |
| Ending inventory | | $ 2.00 |

The compounding effect can be seen in Exhibit 1 which compares the various approaches. Material has been omitted, inasmuch as the effects are comparable to labor efficiencies under the various methods.

The differences between the price approach and the cost approach to labor may not be material and may be partly or fully offset by the price approach to burden. Even combined with the burden rate application approach,

EFFECTS OF ALTERNATIVE APPROACHES TO "LIFO" VALUATION

| | Unit Method And Cost Approach | | | Labor Price Approach Burden Price Approach | | | Labor Price Approach Burden Application Approach | | |
|---|---|---|---|---|---|---|---|---|---|
| | Labor | Burden | Total | Labor | Burden | Total | Labor | Burden | Total |
| Beginning inventory | $ 4.00 | $ 4.00 | $ 8.00 | $ 4.00 | $ 4.00 | $ 8.00 | $ 4.00 | $ 4.00 | $ 8.00 |
| Production | 3.00 | 6.00 | 9.00 | 3.00 | 6.00 | 9.00 | 3.00 | 6.00 | 9.00 |
| | $ 7.00 | $10.00 | $17.00 | $ 7.00 | $10.00 | $17.00 | $ 7.00 | $10.00 | $17.00 |
| Ending inventory | 4.00 | 4.00 | 8.00 | 2.00 | 5.00 | 7.00 | 2.00 | 2.00 | 4.00 |
| "Costs" of sales | $ 3.00 | $ 6.00 | $ 9.00 | $ 5.00 | $ 5.00 | $10.00 | $ 5.00 | $ 8.00 | $13.00 |

**EXHIBIT 1**

the price approach to labor may not result in significant differences from the cost approach in specific instances. But can they become material? Technological change will normally result in a realignment of direct labor and burden. In fact, an "efficiency savings result" can be obtained from the simple reclassification of direct labor to indirect labor.

Certainly, if the change in production methods is rapid and distinct, the logical action is the reassessment of index calculation procedures. But the change is usually subtle and gradual. At what point should the reassessment be made? Perhaps the possibility of materiality in the future requires challenge of the concept at the outset.

### *The Basic Question*

What is the basic question in challenging the price concept of dollar-value "lifo"? It appears to be whether "lifo" can have two very different applications in practice—the valuation of inventory items at base production usage quantities times base prices (cost approach) or the valuation of the same items at current production usage quantities times base prices (price approach). Is it now just as "generally accepted" to emphasize the value of the inventory "dollar" as it has been to emphasize total unit "cost"? If this is true, can replacement dollar depreciation and "next-in, first-out" be far behind?

## DISCOUNT TERMS—OUR PROBLEM

by A. T. Mattison*

IN PLANNING THE WORK-LOAD or in devising a system for an accounts payable or disbursements department, a major item to cope with is the varying payment discount terms and due dates—net tenth prox., net ten days, one per cent ten days, as one per cent tenth and twenty-fifth prox., net thirty days, to name a few. A business, sound financially, wants to pay its bills when due and take advantage of all discounts but still conserve its cash as much as possible by withholding payment until the due date. The savings gained by using the full period allowed under the terms of vendor must be further measured against the cost of issuing a check. Each check issued incurs cost and, therefore, as few checks as possible should be issued to each vendor in any period.

Probably the worst example of proliferation of checks would be the case of a vendor offering terms of one per cent ten days. If the vendor shipped every day and if the full allotted time of payment were to be utilized and all discounts taken, it would mean that a check would be issued to him every working day. This would undoubtedly prove to be very costly to both parties. One would have the cost of preparing a voucher and issuing a check while the other would have the cost of entering the check in the cash receipts record and accounts receivable, to say nothing about the effort expended to reconcile the account. The example might appear quite ridiculous but the writer knows of two large corporations where this has happened.

About two years ago, the controller's staff of a large corporation, in co-operation with the procurement department, contacted all of the company's vendors in an attempt to change all ten-day terms to tenth and twenty-fifth terms. As it worked out, about sixty per cent of the firms contacted agreed to do so and about forty per cent refused. It was then decided that all vendors with ten-day terms would be paid on the tenth and twenty-fifth and discounts taken. It is interesting to note that, after two years of operation on this basis, only two companies have complained about this method of payment and, in both cases, the complaining companies agreed to the terms after the matter was explained to them.

For many years my personal impression was that the troublesome, varying terms could best be controlled by the buyers who could insist on terms to the company's liking at time of purchase. I have now convinced myself that this is true only in part. There are some items sold for which everyone in the particular industry, on a united front basis, insists on terms without regard to the cost of proces-

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sing the paper. It has been proven that trying to correct this situation through your procurement department will not solve all the situations. While working on the subject, the thought came to me that, instead of contacting the company with the ten-day terms through its salesman or sales manager, perhaps a better approach would be to the individual or group of individuals who established these unhandy terms in the first place. In most companies, discount terms are not decided by the sales department but are established usually by the credit department, the treasury department, the controller's department, or by the executive management on the advice of one of these departments.

If this is true, then there is probably no other group or organization in the United States that numbers as many members making the decision on discount terms as the members of the National Association of Accountants. I think we sweat and strive to do a good efficient job on the accounts payable end of our own business, troubled by the terms of others, and at the same time completely disregard the troubles we cause our own fellow members when we establish the terms under which we ask our salesmen to sell our own products. I think ten-day terms are difficult and expensive to handle for both sides of the business transaction and that the gains received by terms of this type are more than offset by the paperwork costs, as opposed to terms of tenth and twenty-fifth which would permit processing of payments twice a month.

## BUDGET SALESMANSHIP

By Walter G. Thorl*

Budgeting is in reality a philosophy. This requires, among other items, effective communication. This does not mean some kind of radio system or teletype machine in every office, but rather a *two-way* exchange of opinions, ideas, and suggestions between the top management, middle management, and the salesman in the field. The only way that the budgeting program can be successful is for all persons at all levels to understand the value of planning ahead and have some knowledge (after they have reported their plans) of whether the plans are effective.

Once a budget figure is prepared, it can be refined after it is in operation. There is no guarantee that the first plan or budget developed is the best one. It would be impossible for any person to develop a plan that would not require changes from time to time. The important thing in making estimates and forecasts is that all people in the chain of communications realize that the figures are "educated" estimates and that the factors which contributed to the estimate may change.

Budgeting is a real philosophy of planning and is not merely a bookkeeping system or a procedure where the "top" tells the "bottom" what to do. The success of the budget depends on every person in the organization. As for the difficulty of compiling a budget, there is an old saying, "If a thing is difficult, it is worth doing."

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# The Meaning of the Merchandising Plan in a Department Store

by ROBERT A. PILL

AN EXCESSIVE INVENTORY in any line of business can prove most costly. In the retail department store field, the additional costs caused by excessive inventories are often disastrous. Such costs as high storage and insurance expenses also involve, due to the slow turnover, the inability to take advantage of the relatively large cash discounts available.

In times past, few, if any, retail department stores were informed of the state of inventories as seasons progressed. The excessive inventory situation was not discovered until a physical inventory had been taken and computed. Then the blame was placed on the merchandise manager because he had overbought. Today this need no longer be true due to the formulation and application of budgets and forecasts, two of the tools the accountant has with which to institute and maintain effective inventory control.

Much valuable information can be obtained by a proper explanation of the reasons for inventory control to the staff members who maintain it. These staff members include both the controller and merchandise manager—who are primarily responsible for budget preparation—the departmental managers and the buyers. Such discussion must include an explanation that money allotted for purchases must be used discreetly. It must be emphasized that, to avoid overbuying, proper planning is necessary. This article is written to show the role the accountant can play in controlling inventories by proper planning. Although it is written specifically for retail department stores, like principles apply to almost any line of business.

The primary recommendation, then, to avoid overbuying is to prepare and properly apply a merchandise budget which controls the purchases of each department. To best illustrate the manner in which merchandise purchases are controlled by proper budgetary procedures, a Merchandise Plan budget for the

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**MERCHANDISE PLAN**

Fall Season - From February 1, to July 31,
Department 51
Merchandiser: Men's Furnishings

Special Events
February 12
April 6
June 8
Dollar Day
Easter Sunday
Fathers Day

For Season
Per cent purchase margin
Per cent markdowns
Per cent shrinkage
Turnover (season basis)

| | | | | | | | | | | | | | | Last Year | Plan | Actual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | 39.9 | 40.0 | |
| | | | | | | | | | | | | | | 10.0 | 9.0 | |
| | | | | | | | | | | | | | | 0.7 | 0.5 | |
| | | | | | | | | | | | | | | 1.3 | 1.4 | |
| | February | March | Season to Date | April | Season to Date | May | Season to Date | June | Season to Date | July | Season Totals | August |
| Sales: | | | | | | | | | | | | |
| Last year | 3,624 | 4,511 | 8,135 | 4,303 | 12,438 | 5,916 | 18,414 | 6,508 | 24,922 | 4,437 | 29,359 | 3,993 |
| Plan | 3,440 | 4,285 | 7,725 | 4,145 | 11,870 | 5,620 | 17,490 | 6,500 | 23,990 | 4,435 | 28,425 | 3,990 |
| Actual | | | | | | | | | | | | |
| Variation from plan | | | | | | | | | | | | |
| Markdowns: | | | | | | | | | | | | |
| Last year | 411 | 59 | 470 | 88 | 558 | 147 | 705 | 705 | 1,410 | 1,326 | 2,736 | |
| Plan | 340 | 30 | 410 | 75 | 485 | 130 | 615 | 615 | 1,230 | 1,230 | 2,460 | |
| Actual | | | | | | | | | | | | |
| Variation from plan | | | | | | | | | | | | |
| Shrinkages: | | | | | | | | | | | | |
| Last year | 35 | 32 | 67 | 31 | 88 | 41 | 129 | 46 | 175 | 31 | 206 | |
| Plan | 15 | 20 | 35 | 20 | 65 | 30 | 85 | 35 | 120 | 25 | 145 | |
| Actual | | | | | | | | | | | | |
| Variation from plan | | | | | | | | | | | | |
| Stock sales ratios: | | | | | | | | | | | | |
| Last year | 5.1 | 4.8 | | 4.7 | | 4.5 | | 3.6 | | 4.9 | | 5.0 |
| Plan | 4.8 | 4.7 | | 4.6 | | 4.3 | | 3.2 | | 4.5 | | 4.7 |
| Actual | | | | | | | | | | | | |
| Variation from plan | | | | | | | | | | | | |
| Retail stock (first of month): | | | | | | | | | | | | |
| Last year | 18,482 | 21,653 | | 20,506 | | 26,622 | | 23,429 | | 21,741 | | 19,965 |
| Plan | 16,510 | 20,140 | | 19,065 | | 24,165 | | 20,600 | | 19,960 | | 18,795 |
| Actual | | | | | | | | | | | | |
| Variation from plan | | | | | | | | | | | | |
| Retail purchases: | | | | | | | | | | | | |
| Last year | 7,231 | 3,495 | 10,686 | 10,598 | 21,284 | 2,911 | 24,195 | 5,571 | 29,766 | 4,216 | 33,984 | |
| Plan | 7,445 | 3,280 | 10,725 | 9,340 | 20,065 | 2,415 | 22,480 | 6,310 | 28,790 | 4,585 | 33,375 | |
| Actual | | | | | | | | | | | | |
| Variation from plan | | | | | | | | | | | | |
| Cost purchases: | | | | | | | | | | | | |
| Last year | 4,346 | 2,076 | 6,422 | 6,369 | 12,791 | 1,750 | 14,541 | 3,348 | 17,889 | 2,535 | 20,424 | |
| Plan | 4,465 | 1,970 | 6,435 | 5,605 | 12,040 | 1,450 | 13,490 | 3,785 | 17,275 | 2,750 | 20,025 | |
| Actual | | | | | | | | | | | | |
| Variation from plan | | | | | | | | | | | | |
| Gross margin: | | | | | | | | | | | | |
| Last year | 1,184 | 1,745 | 2,929 | 1,469 | 4,398 | 2,247 | 6,645 | 2,190 | 8,835 | 635 | 9,470 | |
| Plan | 1,150 | 1,670 | 2,820 | 1,600 | 4,420 | 2,150 | 6,570 | 2,210 | 8,780 | 960 | 9,740 | |
| Actual | | | | | | | | | | | | |
| Variation from plan | | | | | | | | | | | | |
| Per cent of gross margin: | | | | | | | | | | | | |
| Last year | 32.7 | 38.7 | 36.0 | 38.3 | 36.8 | 38.9 | 37.2 | 33.8 | 36.0 | 18.0 | 33.5 | |
| Plan | 33.4 | 39.0 | 36.5 | 38.6 | 37.2 | 38.3 | 37.6 | 34.0 | 36.6 | 21.6 | 34.3 | |
| Actual | | | | | | | | | | | | |
| Variation from plan | | | | | | | | | | | | |

**EXHIBIT 1**

men's furnishing department of a store having a total store volume of between one and two million dollars is set forth in Exhibit 1. The following paragraphs explain the more important facets of the budget and how they can aid in overcoming overbuying.

The illustrated budget was prepared during a period of time when a decline

in business was predicted. Had either an increase in business activity or relatively the same conditions been predicted, the budget would have been necessarily adjusted.

### The Planning of Merchandise Sales

The first item of the budget to be planned is that on which all other items of the budget are based—sales. The planned sales should indicate a reasonably attainable amount rather than a desired amount which is potentially unattainable under normal operating conditions.

In planning sales, the most important factors to be taken into consideration are present economic conditions, the business forecast for the immediate future, the general course of new styles and their anticipated life expectancy.

It is important to note, in budgeting sales, that the total planned sales, as reflected in Exhibit 1, include the amount of employees' discounts estimated to be allowed. The best method of planning the discounts is by a study of sales to employees in the past since, as a general rule, most stores offer a certain percentage discount on sales to employees. This discount is reflected as an item in the expense budget, although some stores treat it as a loss of gross margin by showing it as a reduction of total planned sales.

By making a comprehensive study of the various departmental operating reports of other stores which are published periodically in volume groupings by such agencies as the National Retail Merchants Association (formerly the National Retail Dry Goods Association), the Federal Reserve Board and the Harvard Bureau of Business Research, sales planning and planning for other items in the merchandise budget are greatly facilitated. Such departmental operating reports present sales, markdowns, stocks, purchases, markons and gross profits, which may be used as comparisons. In addition to the aforementioned factors, an analysis of the actual sales for a corresponding period or periods in the past, supplemented by a comparison of the amounts of average sales transactions, is useful in planning sales. Such an analysis should help indicate the reliability of past performance under the conditions forecast.

### Mark-downs, Shrinkage—and Stocks

Markdowns, the next item, are amounts deducted from original marked retail prices (or from previously marked down retail prices) to give reduced retail prices. Their use in the budget, as illustrated later under planned pur-

chases, is very important in maintaining the planned stock figures. As a general rule, an inability to sell certain inventory items at their original markon is the cause of markdowns. This inability must be carefuly analyzed to determine its cause and thus to reduce markdowns. A proper comparison of markdowns taken in the past with those as shown in the periodic publication of departmental operating reports of other stores is very useful in obtaining an ideal markdown percentage for which to strive.

Shrinkages are another element to be included in the merchandise budget. Shrinkages are the excesses of amounts reflected by stock records over actual stocks on hand. They result not only from actual loss of merchandise from theft, breakage, spoilage, etc. but also from errors in maintaining stock records. Shrinkages must be planned in order that the loss from this factor does not fall entirely in the period in which physical inventories are taken. Here, again, the departmental operating reports, previously mentioned, are extremely useful in planning.

In planning retail stocks, a very important phase is the proper development of stock-sales ratios. This is the ratio of stock on hand at the beginning of a period to the sales for the period. Past experience shows the ratios previously maintained. By comparison of these ratios with those maintained by other stores, a reasonably attainable goal may be set. Such comparisons must take into account the fact that inventories should generally be peaked just prior to the high point in sales and should be at their lowest point just prior to the low point in sales. Having properly developed the stock-sales ratios, retail stocks which allow for a reasonably attainable turnover can be planned. At this point, the planned stocks are easily calculated by multiplying planned sales by the stock-sales ratio. If, after a reasonable length of time within the budgetary period, results differ widely from the plan, then a revision may be made to the department's advantage.

### *The Planning of Purchases*

After retail stocks have been planned, it is a relatively simple matter to compute the amount of retail purchases. Generally speaking, the purchase figure is the difference between the retail merchandise needed and that which is on hand. The retail merchandise needed is an amount which covers sales, markdowns, shrinkages and retail inventory. To illustrate this point, let us plan our purchases of men's furnishings for the month of March as follows:

*Merchandise Needed*

(Plan as reflected in budget)

| | |
|---|---|
| Planned sales for March | $ 4,285 |
| Planned markdowns | 50 |
| Planned shrinkages | 20 |
| Planned stock, March 31, | 19,065 |
| Total merchandise needed | $23,420 |
| Less-Merchandise on hand: | |
| Planned stock, March 1, | 20,140 |
| Planned retail purchases | $ 3,280 |

It is important here to add a note of caution. The inventory at the beginning of the season must be realistically valued. To protect the purchasing power of the new season, no more should be paid to the old season for its inventory than would have been paid to an outside vendor. This factor is brought out in the following illustration for the department budgeted:

| | *Valuation before write-down of old season merchandise* | *Valuation in hands of outside vendor* |
|---|---|---|
| Planned sales for February | $ 3,440 | $ 3,440 |
| Planned markdowns | 360 | 360 |
| Planned shrinkage | 15 | 15 |
| Planned stock, February 28, | 20,140 | 20,140 |
| | $23,955 | $23,955 |
| Less—Actual inventory, February 1, | 18,000 | 17,000 |
| Planned retail purchases | $ 5,955 | $ 6,955 |

### Markon Percentages; Gross Margin

Markons, the next budgetary item, are the excesses of the original marked selling prices, plus any markups, over cost. Markups are amounts added to the original marked selling prices to revise them upwards. In planning markons, it should be realized that the plan should be sufficient to yield a net profit after covering all markdowns, shrinkages, departmental expenses and a reasonable contribution towards the store's overhead.

A comparison of the departmental markdown with those for like departments of other stores is a wise move in planning. From such comparison, the department merchandise manager may be able to determine possible means of increasing his sales and/or his contribution to the store-wide profits. Such determination could result from analyzing the possible effect of accepting the

"average" results of other stores. If his markons are higher than those of the other stores, he should determine whether a slight reduction in markon would help increase his sales and still yield a desired profit. If, however, his markons are lower than the average, he must determine whether an increase in markons will maintain the sales volume presently experienced. By recommending a careful study, comparison and evaluation of the "average" markons, the accountant may greatly enhance the chances of success for the store.

Upon the completion of the markon plan, it is a relatively simple matter to plan cost purchases. These purchases are computed by multiplying the planned purchases at retail by the complement of markon percentages. Markon percentage is the percentage which markon bears to originally marked selling prices, plus markups. The complement thereof is merely 100 less the percentage of markon. If the markon percentage is 40, then the complement of markon percentage is 60. Cost, then, is 60% of retail.

To complete the merchandise plan, it is necessary to compute the gross margin. This necessity arises from the fact that entry of gross margin on the plan allows for comparison between actual and planned results. The effect of markdowns and shrinkages on gross margin is also reflected in the plan.

Assuming that the markon percentage on both the inventory of February 1 and the purchases of the months of February and March is as planned, i.e., 40 per cent, then the complement of the cumulative markon percentage is 60 per cent. The gross margin would be figured as follows:

| | | | |
|---|---|---|---|
| Planned sales | | | $7,725 |
| Less—Cost of planned sales: | | | |
| | *Retail* | *Cost* | |
| Sales | $7,725 | (60% | |
| Markdowns | 410 | of | |
| Shrinkages | 35 | retail) | |
| | $8,170 | $4,905 | 4,905 |
| Gross margin | | | $2,820 |

Per cent of gross margin:

$$\frac{\text{Gross margin}}{\text{Sales}} = \frac{\$2,820}{\$7,725} = 36.5$$

There must be a periodic review of the departmental merchandise budget to determine the possible requirement for revision. In order to keep stocks within the budgeted amounts, purchases should either be curtailed or increased as actual sales are respectively less or greater than planned. However, the budget

must be flexible enough to allow purchases of merchandise in current demand, even though budgeted purchase amounts may be exceeded. Purchases must never be restricted in an arbitrary manner if it will prove harmful to operating results.

### *Unit Control*

In addition to the dollar budgetary control as set forth above, the departmental managers must also establish a unitary control of merchandise in order to use the dollar budget wisely. To illustrate this in the most simple manner, let us assume that, in the men's furnishings department (assuming no style change), facts reflect the following about white shirts:

| *Neck size* | *Unit inventory beginning of period* | *Unit sales same season prior year* | *Minimum units necessary to purchase this period* |
|---|---|---|---|
| 14 | 100 | 150 | 50 |
| 14½ | 350 | 250 | — |
| 15 | 300 | 900 | 600 |
| 15½ | 300 | 900 | 600 |
| 16 | 100 | 300 | 200 |
| 16½ | 100 | 300 | 200 |
| 17 | 100 | 300 | 200 |

From these facts, it would not appear to be a wise decision for the departmental manager to order a total of 250 size 14½ white shirts. By careful *unit* control along with *dollar* budgetary control, it is possible to maintain a desirable balance between individual items of merchandise stocks.

INTERIM CALCULATION OF OPEN-TO-BUY

| Stock on Hand at Calculation Date Known | | | Stock at Calculation Date Not Known | | |
|---|---|---|---|---|---|
| Merchandise needed (at retail): | | | Merchandise needed (at retail): | | |
| Planned sales, remainder of period | $24,985 | | Net sales- | | |
| Planned markdowns | 2,200 | | Actual to date | $ 3,300 | |
| Planned shrinkages | 130 | | Planned, remainder of period | 24,985 | $28,285 |
| Planned stock, end of period | 18,755 | | Markdowns- | | |
| Total | | $46,070 | Actual to date | $ 375 | |
| Less - Available stock (at retail): | | | Planned, remainder of period | 2,200 | 2,575 |
| Stock on hand | $20,495 | | Shrinkages (0.5% on sales) | | 140 |
| Unfilled purchase orders for this period | 2,335 | | Total | | $31,000 |
| Total | | 22,830 | Less-Available stock (at retail): | | |
| Open-to-buy for period, at retail | | $23,240 | Stock on hand, beginning of period | $17,000 | |
| | | | Unfilled purchase orders for the period | 2,335 | |
| | | | Actual purchases received, less returns for the period | 9,335 | 28,670 |
| | | | Open-to-buy for period, at retail | | $ 2,330 |

**EXHIBIT 2**

### Interim Control Through Open-to-Buy Computations

Having completed the merchandise budget, the next problem to arise is that of keeping purchases within the limits set forth in the budget. This is accomplished by carefully computing an open-to-buy for the department. The open-to-buy is, as inferred, the amount of purchases necessary to meet the merchandise requirements.

At any time during a season, the open-to-buy may be easily computed. It is the difference between the merchandise needed and that which is on hand and on order. At the beginning of a season, open-to-buy is the planned purchases for the season, less any unfilled purchase orders. If it is desired to determine the open-to-buy at any time during the season when stock on hand at the calculation date is known, the calculation is as in Exhibit 2 for the period from March 1 to the season's end.

The "open-to-buy for period at retail" is then converted to cost by multiplying it by the complement of the markon percentage for the department. It is important for the accountant to recommend a complete follow-up on the open-to-buy. This is because an overbought condition, rather than an open-to-buy, may be shown by the calculations. This condition calls for a revision of the budget and close scrutiny of the department's operation. It also requires that additional purchase orders be referred to both the controller and merchandise manager for their approval before the order is placed.

By advocating the adoption of a sound merchandise budget and follow-up of open-to-buy, the accountant has performed an important service. He has helped to develop an integrated system of internal planning and control which is essential to a successful operation. He has also helped to develop a live asset—an inventory with the minimum capital investment consistent with operating requirements.

### Better and Smoother Operations

The inventory planning and control program, as described, is presently in effect. It has resulted in increased inventory turnover, reductions of overbuying, more realistic overall budgeting and a better understanding between the accounting and merchandising personnel. The program may be adapted to any type of retail operation without extensive changes. It will provide the accountant an opportunity to make a positive contribution toward minimizing overbuying and establishing effective inventory control.

# Tax Effects of Qualifying as a Pseudo-Corporation

by JOHN F. GAITHER

THE TECHNICAL AMENDMENTS ACT OF 1958 has created a dramatically new way of doing business, and a revolutionary one—a pseudo-corporation. Its effects as a tax-planning tool are far-reaching. They create a responsibility on the part of the tax practitioner which cannot be ignored. He will be held as accountable for advising his clients to make an election to operate under this business form as for advising them not to. The passage of this revolutionary act creating such a hybrid business organization requires an immediate reconsideration by all businessmen of form of company organization and a complete reappraisal of personal and corporate tax situations.

Businessmen who previously operated proprietorships or partnerships because of the effect of double taxation (of income as earned by the company and in the form of dividends) on a corporation may now gain for themselves the advantages of limited liability and other fringe benefits offered by the corporate form, with none of the tax disadvantages. Among these many fringe benefits are participation in profit-sharing and pension plans, exempt sick pay, and accident and health insurance. The act permits the forming of corporations for personal service activities without the danger of the personal holding company penalty. Other advantages available to the businessman in operating under the corporate form are the relative ease of splitting business income with members of the family and the adoption of a fiscal year other than the calendar year so that the payment of tax can be deferred over two subsequent years.

Credit men will certainly reappraise loans made to corporations in view of the new act. A corporation which elects not to be taxed as a corporation has no tax liability and, therefore, a loan made to such an organization will not be subordinated to the liability for income taxes which frequently has rendered business claims practically worthless.

## Qualifications as a Pseudo Corporation

In order for a corporation to take advantage of the provisions of this act, it is first necessary to qualify the corporation and then to maintain its qualifica-

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tion. The tax consequences to both the corporation and to the various stockholders must be exhaustively appraised. The conditions for qualifying as a pseudo-corporation are:

1. There must be no more than ten stockholders.
2. There must be one class of stock.
3. There can be no non-resident alien stockholders.
4. All the stockholders must be individuals or estates.
5. The corporation must not be part of an affiliated group.
6. Less than 20 per cent of the income must be received from dividends, rents, and royalties.
7. The consent of each stockholder must be obtained and filed as part of the election.
8. The election must be made within a period of thirty days before or after the start of the fiscal year.

The election will remain in effect unless revoked by unanimous consent of the stockholders or unless the corporation becomes disqualified. In this respect a danger is created. If a share of stock is sold to an eleventh stockholder, the eligibility is lost, with possible consequences to all the stockholders. Stock sold to a non-consenting stockholder will automatically terminate the election. A stockholder buying stock in the corporation will have to pay personal tax on his share of the profits earned prior to his becoming a stockholder. Under the circumstances it may be necessary to have a restrictive clause on the stock certificates requiring the new stockholder to agree. It may also be necessary for an adjustment to be made in the purchase or sale price of the stock to compensate the stockholder for earnings he did not receive.

### Some Consequences of Making the Election

The following hypothetical company data will be used to illustrate the effect of the election:

*Petite Fashions, Inc.*

(Fiscal year ends January 31)

| | |
|---|---|
| Long-term capital gain in 1958 | $ 5,000 |
| Operating loss carry-forward from 1957 | $ 25,000 |
| Net operating income for 1958 | $ 25,000 |
| Capital stock | $250,000 |
| Retained earnings | $100,000 |
| Dividends and rents received | $ 4,000 |
| Cash dividends paid in November 1958 | $ 5,000 |
| Non-cash dividends paid in December 1958 | $ 10,000 |

The stockholders throughout 1958 were:

| | *Salary* | *Holdings* |
|---|---|---|
| Brown | 20,000 | 300 Shares of common stock |
| Black | 10,000 | 500 Shares of common stock |
| White | 5,000 | 200 Shares of common stock |

In referring now to the above data to determine the consequences of becoming a pseudo corporation, we see that:

*Consequences to the Corporation*

1. The 1957 operating loss carry-forward of $25,000 may be lost forever, since the carry-forward provisions of the Internal Revenue Code become inapplicable.
2. The corporate returns will report all items of income.
3. The capital gain will be passed through to the stockholders.
4. The income items will be distributed to the stockholders in proportion to their stockholdings.
5. Petite Fashions, Inc., will not pay any corporate income tax as long as it remains qualified.

*Consequences to the Stockholders*

1. The stockholders must pick up in their individual returns their pro rata shares of the capital gains income. The amounts will be taxable to the individuals even though no money was withdrawn in 1959, since that is the close of the corporation fiscal year. However, the cash dividends paid of $5,000 will be taxable to the individuals in 1958. The capital gain will maintain its identity on the individual returns.
2. The cash dividends of $5,000 and the balance of undistributed net income will not be allowed the dividend received credit or the exclusion, nor will it be treated as a dividend for retirement income credit.
3. The non-cash dividend will be treated as coming out of accumulated earnings and will be eligible for dividend received credit.
4. The corporation dividend received deduction of 85 per cent, tax exempt interest, and other similar items will lose their character and will not pass through as such to the individuals.
5. Since the corporation had a gain for the period under review, the income is taxable to the stockholders as of the close of the fiscal year. However, if the corporation had suffered a loss for the year instead of a gain, the amount of loss would be distributed to the stockholders as an operating loss and the individual would have

the right to carry the loss back and forward. The amount of loss allowed, however, is limited to the basis of his stock and other indebtedness.

A change of ownership during the year is handled differently in the event of a gain or a loss.

1. A gain will be treated as accruing to the stockholders as of the last day of the fiscal year.
2. A loss, however, will be treated as accruing during the entire year and each stockholder will compute his share of the loss on a daily basis.

In the event that White sold his shares to Black on January 15, White should be entitled to 20 per cent of 349/365 of the loss. Black would be entitled to 50 per cent of the loss for the entire year, plus 20 per cent of 16/365 as representing the amount purchased from White. Any previously undistributed net income earned by White may be withdrawn tax-free by White in subsequent years. The amount would not be available to Black on a tax-free basis.

### *Loss of Qualification—Voluntary and Involuntary*

Since Petite Fashions, Inc. has elected to be taxed as a pseudo-corporation, a loss of qualification automatically terminates the election in the year in which the disqualification takes place. A voluntary revocation must be made in the first month of the fiscal year to be applicable to that year. A revocation subsequently made will apply to the next fiscal year. The corporation could not make another election for a period of five years after the termination takes place.

In the event that a revocation or disqualification takes place, the entire income of Petite Fashions, Inc. would be taxable to the corporation and no part of the gain or loss would be considered by the individuals except for their shares of dividends paid. The operating loss carry-forward would be reduced by the income earned during the period that the corporation was qualified, even though the loss was not used by the individuals. The loss may be carried forward provided the five-year limitation had not expired. Under the latter conditions, it is possible that the loss carry-forward may be nullified or lost completely. Likewise, any losses sustained in subsequent years may not be carried back to offset income for the years during which the corporation had qualified status.

Of prime importance is the fact that undistributed net income would be locked in the corporation in the event of disqualification. It could not be withdrawn tax-free until after all current and accumulated earnings had been distributed. These distributions would be taxable as ordinary dividends. It, therefore, is

incumbent upon the stockholders to withdraw the entire amount of undistributed net income currently or certainly before an event takes place which results in a termination or revocation. If such a situation would result in a depletion of working capital, the amounts could be loaned back to the corporation. Such a situation, however, could conceivably result in a state tax liability which would not be present as long as the earnings remained undistributed.

Since certain acts can destroy the qualification status of the business, even unknowingly, it is important that these possibilities be explored and the danger spots be removed. The following situations are among those which must be watched:

1. A transfer to a trust or by will or intestacy in which the executor did not have the power or desire to make the election would terminate the qualification. In order to avoid such a contingency, the executor can be given specific power or the election can be made binding.
2. Care must always be taken that a gift of stock does not disqualify the corporation by increasing the number of shareholders beyond the ten limitation.
3. Since a net operating loss carry-over cannot be passed through to the stockholders, it may well be desirable to hold off the election until the loss can be used up against corporate income. In the example shown, the operating loss carry-forward should first be applied to the income and the election should be made in a subsequent year.
4. A current operating loss can be applied only to the extent of the basis of the stock and other indebtedness. Any loss in excess of that amount will be lost. Therefore, the election should not be made unless a sufficiently high basis of investment exists or can be made.

### *Added Flexibility in Tax Planning*

The new hybrid business form which the pseudo corporation embodies permits a great deal of flexibility as to the choice of the most advantageous method of business organization. The election can, therefore, be used to good advantage on a one-year basis, so that large capital gains or operating losses can be passed through. On the other hand, it is often desirable to operate on the basis of a real corporation, so that large items of income can be taxed at the more desirable corporate rates. The particular choice must be carefully studied, since the revocation of the election prevents, as has already been noted, another switch for a period of five years.

The formation of a pseudo-corporation and adoption of a fiscal year other than that of the stockholders results in a built-in control for either a deferment of tax or a spreading of the tax over a period of two or three years. The income is taxable to the individual in the year in which the fiscal year ends. Therefore, in the example of Petite Fashions, Inc. the dividends would be taxable in 1958, the balance of the earnings in 1959. On these the individuals would not finish paying the tax until 1960.

The possibility of switching income to other members of the family at lower tax rates exists, inasmuch as a gift of stock may be made to the children, thus bringing immediate benefit as far as federal income taxes are concerned and in the long run by reducing the estate. The gift could be made tax free in many instances.

Since the new law is not without danger points but, at the same time, affords revolutionary benefits, the proper choice of business organization of the average small businessman becomes a complex decision requiring the weighing of not only the corporate prospects but also the personal situations of each of the individual stockholders. More and more the need for sound planning falls upon the accountant's shoulders and thus re-emphasizes his growing stature in American business.

# How Defense Contractors Can Improve Liaison With Government Auditors

by ROGER R. PALMER

MOST MAJOR COMPANIES TODAY are engaged in some work for the Government. This usually entails having some cost plus a fixed fee (C. P. F. F.) or redeterminable fixed price contracts. These companies generally have either a government sales department or a contract department responsible for negotiating and administering their contracts. To assure the incorporation of terms into contracts which will not conflict with the accounting procedures of the company, early contact with accounting and audit groups is critical. The requirements of the Government for various types of records and for satisfactory internal controls should be recognized before the contract is signed. During and after contract performance, liaison must be established with military and other government audit groups.

Why not consider the internal audit group for this job? Although it is a generally accepted fact that internal auditors must be divorced from the line functions of the organization, this activity would not detract from their effectiveness. The maintenance by the internal audit group of the company's relationship with auditors representing defense and other government agencies is desirable because this group combines a broad knowledge of the company's accounting functions with auditing experience necessary to review the findings of the government auditors. In addition, there are many areas in which the aims of both internal auditors and government auditors are the same and in which a joint effort can prove very productive. Both groups are interested in maintaining satisfactory internal controls and in determining where they may be weak. Often the independent review performed by the government auditors produces findings which are of great use in internal audit.

## Areas in Which Company and Government Auditing Are Related

In many cases the internal audit staff and government auditors may be reviewing the same area of the accounting system. Coordination may prevent problems

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which would arise when the government auditors suggest changes aimed toward providing them with information in more satisfactory form but which could easily conflict with the internal audit program. Similarly, the government auditors' proposal might be accepted in such a form as to be detrimental to the internal auditors' overall program or it might be rejected, making it more difficult for the internal auditors to sell the affected departments on any proposal.

Coordination between the internal audit staff and the military auditors can also prevent substantial duplications of effort. The coordination of the auditors' efforts may not only relieve the auditors of unnecessary work but will likewise make the lives of the departments audited easier. Chapter 4-1.106(a) of the Department of Defense's Contract Audit Manual established the fact that the Government is strongly in favor of establishing a coordinated effort. It states:

> "Coordination with Contractor's Internal Audit Staff.
>
> (a) Internal audits comprise an element of internal control. The nature and scope of the contractor's internal audit activity will have been determined as part of the survey of internal controls and accounting practices. (Ch. III). Maximum reliance, consisted with the nature and scope of the contractors' internal audits, will be placed upon such activity in an effort to reduce the detailed audit work to be performed by the military department auditor."

In a company with an internal audit staff, deficiencies in internal control should not be significant enough to concern military auditors. The internal auditor's surveys and audit workpapers should prove this to be true. However, because company accounting practices are generally designed to provide the management rather than the military with information, the internal auditors will not necessarily be pursuing the same direction as the military auditors when they determine that charges are made in accordance with the company's accepted accounting procedures.

Few government contractors have accounting systems fully compatible with Armed Services Procurement Regulation practice. In addition, the efforts of government and internal audit groups will not coincide because certain of their aims are different. To establish a comparison, we could say that both audit groups will be likely to agree on the fundamental elements of internal control. In their review of the accounting system. However, the government auditors will be seeking procedures directed primarily to segregating costs which are unallowable. The internal audit group will be pressing for segregations which will best assist management in understanding and controlling expense. Management must, therefore, establish controls in order to assure that the military auditors' findings are correct.

We must consider separately two areas for liaison between government auditors and internal auditors. These areas are distinct and, in my opinion, can be adopted either jointly or separately. For convenience, let us call the first "coordination" and the second "review." Coordination may be defined as having the internal auditors plan with the government auditors to produce a joint audit effort in which separate phases of the program will be undertaken by each. Review I would define as the examination of government audit findings to determine that they are prepared on sound accounting principles, conform to both contract provisions and government regulations, and are adjusted to reflect the most complete information the contractor can present with respect to his costs.

### *Coordination Between Government and Company Audit Staffs*

Coordination is discussed quite fully in the Contract Audit Manual issued by the Department of Defense. Section 4-1.106 (c) of the Manual establishes the requirements which must be met before a common audit effort can be approved by the government auditors. The first three requirements are:

1. "The contractor's internal audit staff must be composed of professionally qualified auditors.
2. The internal audit staff must be organizationally independent, have no day-to-day operating responsibilities, and must be administratively responsible to the comptroller or a higher executive.
3. Audits made by the contractor's internal audit staff must be comprehensive, directed toward the functional or departmental internal control procedures and flow of the resulting accounting work rather than being restricted to routine voucher examination."

All internal auditors recognize these requirements as essential to the effectiveness of their own activity. It is interesting to note that the Government also accepts the necessity for these conditions being met before internal auditing can be recognized.

A fourth requirement is:

> "The internal auditors must agree to the audit program, participate actively in its preparation, and make their working papers available to the military department auditor for the latter's continuing review. The military department auditor will make reference thereto in his working papers and, where considered necessary because of the significance of the material, he will prepare pertinent extracts thereof for his working paper files."

Agreement between the auditors as to the audit program is a logical requirement. It is also logical to recognize that the government auditors must have access to internal audit work papers. This section is not clear, however, in providing the internal auditors the same access to the government's work papers. Without the mutual interchange, the contractor's staff cannot logically undertake a coordinated approach.

A fifth requirement is:

> "The military department auditor will make a continuing review of the working papers prepared by the contractor's internal audit staff to assure himself that the latter's audit effort is of an acceptable nature. If he determines that such effort is inadequate in any respect, he will discuss the circumstances with the contractor's internal auditor. If corrective measures are not taken promptly, he will extend the scope of audit by his staff until the unsatisfactory condition is remedied."

Since the responsibility for the audit rests with the military auditor, it is obvious that he must establish the standards which are to be maintained. Here, too, there is the question of review by the internal auditors if the effort is, in reality, to be coordinated.

The final requirement is:

> "Responsibility for determinations regarding the admissibility of costs remains with the military department auditor."

This again is an obvious necessity. It would be unrealistic to allow an internal audit group, which is neither independent of the contractor nor disinterested in the results, to have the final responsibility for determining the allowability of costs. This, then, leads to two conclusions about coordination. If it is practiced as set forth in the Contract Audit Manual, the result is not coordination but assistance. If, however, we add to this program one of review, we will have developed the basis for an effective organizational relationship between the internal auditors and the government auditors.

### *Review of Government Audit Findings*

Experience shows that a review of the government's findings is necessary before a contractor should accept the results of the audit. Similarly, without this review, the advantages of coordination are lost to the internal audit staff. For a jointly undertaken internal control survey to benefit the company, the internal auditors must have free access to all work papers and the right to make extracts as needed. Similarly, audit work papers provide to the contractor and

the military auditor the best single source from which disallowances can be reviewed, evaluated, and discussed. The internal auditors must be able to examine these papers to determine the accuracy of the Government's findings. They must also have sufficient information to permit screening the disallowances for conformity to the Armed Services Procurement Regulation.

A final element of review is the most exacting, since it concerns itself with accounting principles. In most large organizations, costs are allocated because it is impossible in practice to distribute them exactly as they are incurred. This leads the military auditors to make disallowances on the same basis which, in turn, often leads to problems. Consider disallowances against a department which charges for its services at a standard hourly rate and when balances remaining in this department's accounts are charged monthly to overhead. It is necessary for disallowances chargeable against the department to be prorated between the direct charges and the overhead. The method used for determining the allocation of the disallowance can mean a material difference in the dollar loss of the contractor.

Inasmuch as the coordination phase of liaison is clearly defined and must necessarily be directed by the Government, there is no possible way to define its scope or programs. From the contractor's standpoint, the review phase is more critical. Its purpose must be clearly defined and the responsibility for the program assigned. The following proposed "purpose and scope" section of the audit liaison program describes in general terms the responsibilities of the internal auditor for liaison review and establishes in broad terms how the review program is to be carried out.

GOVERNMENT AUDIT LIAISON—PURPOSE AND SCOPE

The purpose of reviewing government audit work papers is to ascertain that the findings:

1. Conform to contract provisions,
2. Conform to applicable government regulations,
3. Are based on the full reported costs shown on company records,
4. Are adjusted for any additional information from company records,
5. Are prepared on sound accounting principles,
6. Are free of errors.

The internal auditor will establish check lists and carry out all necessary programs to assure that Items 1 to 6 above are performed for all applicable audits. He will "sign off" for all disallowances and inform the accounting department what portion has not been concurred with.

Because liaison is primarily a staff function, minimum records will be maintained. Primary reliance will be placed on accounting records maintained by the accounting department and any other line accounting groups. It will not be the responsibility of the liaison group to determine that these records are complete and accurate or that approved amounts are collected, and it would be a duplication of work to do so.

For control purposes, all pertinent data in support of disallowances should be delivered by the government auditors to the internal auditor who will record their receipt. He will promptly perform an initial review of these papers to determine the scope of the work required, prepare a summary of the disallowances shown and schedule a more formal review if necessary. In all cases, a summary work paper will be prepared (Exhibit 1).

GOVERNMENT AUDIT LIAISON

Contact/or Overhead _____ Period _____ To _____

| Cost Category | Amount Submitted | Government Tentatively Allowed | Questioned | |
|---|---|---|---|---|
| Reinstatement Requested | Reinstated | DD-396# | Company Exceptions | Explanation |

**EXHIBIT 1**

Weekly, the internal auditor will report to the financial officer on progress and other matters. All disallowances concurred in by the auditor and approved by the financial officer will be reported promptly to the accounting department by turning over to them for posting all completed audit work papers. These work papers will then be filed with other contract information. The internal auditor will maintain a copy of all summary work sheets to assure follow up of all items questioned by the Government in which the company has not concurred and any items which require resubmission or transfer. This control, together with the auditor's comments, will be the basis for future appeals or resubmissions as determined necessary.

The internal auditor will perform a current review of specified expenses to determine in advance of audit any items which may be considered questionable. He will document any of these costs which are believed to be allowable by follow-up with responsible personnel. In those cases in which it is deemed

necessary, he will also prepare advance requests for government determination on the allowability of costs.

Exhibit 1 is the suggested form for a summary work paper to be established for each review. By maintaining a separate file of these summaries, the status of all contract and overhead audits can be readily ascertained. This file will also provide much information about the nature and amount of disallowances. Reinstatements will generally reflect the inadequacy of the company's original documentation. The "exception" column will signal items which must be transferred and rebilled on different contracts or for which the company should consider using appeal procedures. The sample audit program below, for reviewing overtime premiums, shows the steps which must be taken to ascertain that disallowances are correct. Overtime generally requires prior approval on C.P.F.F. contracts before government auditors will approve it for reimbursement.

REVIEW OF OVERTIME PREMIUM DISALLOWANCES

1. Check total direct overtime premiums (hours and amounts) to billings.
2. Test all larger amounts claimed to determine that government auditors show claimed hours in the correct months. Special attention should be paid to months in which disallowances occur to determine that data agrees with company labor cut-off.
3. Verify all approvals shown by the auditor to accounting department files, with special attention to periods in which disapprovals occur, to ascertain that:
   a. Government's file of approvals is complete.
   b. Approvals are shown in correct month.
   c. Accounting department records are in agreement with contracts department files.
4. Discuss disapprovals with contracts department to determine whether retroactive approvals can be secured.
5. Test overtime transfers to determine in which period charges were incurred and whether they are initially approved. If debits were disallowed initially, ascertain that a supplemental billing will be prepared for this amount against the contract from which the premiums were transferred.
6. If separate approvals are required for debit premium transfers, ascertain that credit has been received where applicable.
7. Credit transfers are accepted by the Government. Ascertain whether any were previously disapproved. If they were, ascertain that a supplemental billing is prepared to recover these amounts.

8. Test government computation of direct and indirect rates for disallowances.
9. Test all extensions and footings.

The scope of review activities must be governed by such factors as:

1. Materiality of disallowances.
2. Extent of government contracting.
3. Accuracy and experience of the government auditors.
4. Prior experience in reviewing government aduitors' findings.
5. Adequacy of documentation for company's transactions.

Since all of these factors vary from time to time, a continuous study of the scale of review operations is necessary. The internal audit group should be well equipped to make a determination of what tests are necessary and to keep them to the minimum level consistent with the company's interests.

### *A Job For The Internal Auditors*

All government contractors are faced with the necessity of deciding who will be responsible for liaison with government auditors. The internal audit group's activities and experience offer to the company the one solution for the review and control of disallowances which will also save time by eliminating duplicate audit effort.

# Beyond These Covers

## Books

### Government Contracts (1958) Defense Procurement and Contract Costs (1957)

*Machinery and Allied Products Institute, 1200 18th St. N. W., Washington 6, D. C.*

End of the items titled above is in pamphlet form and available at 25¢ a copy. The 1957 pamphlet deals with "public policy considerations." The 1958 pamphlet is a statement supplementing a presentation during hearings on a "proposed set of comprehensive cost principles" considered at a government-industry conference at the Department of Defense on October 15 .

### Administrative Expense Control

*Darnell Corporation, 4660 Ravenswood Ave., Chicago 40, Illinois, 1958, Loose leaf, $24.*

Divided into ten sections, this survey reports practice in reducing the number of people needed in administrative work, controlling accession costs, creating better organization, achieving higher quality performance, checking costs of mail handling, lowering record-keeping expense, practicing forms control, improving purchasing of supplies, watching costs of communications and establishing a profit consciousness among employees.

### Management's Stake in Research

*Maurice Holland, Harper & Bros., 49 East 33rd St., New York, N. Y., 1958, 143 pp., $3.50.*

Nested among chapters in this book which are somewhat discursive on research as such, appear still others on such topics as "How Much to Spend on Research," "Research Reports to Management," Five Measurements of Research Performance" and "Financing the Results of Research." These are relevant to the accountant's thinking on his contribution to the research process. Certain portions of the book are separately authored.

## Articles

### New Problems in Tax Planning

*Journal of Accountancy, January 1959.*

This article groups twelve separately authored papers relating to the Technical Amendments Act of 1959. Pseudo-corporation provisions, amortization of leasehold improvements, the "additional first-year depreciation allowance" and collapsible corporations are among the topics dealt with.

### Budgeting for Small Business

*I. Wayne Keller, Journal of Accountancy, January 1959.*

That an impression persists that budgets are complex, costly, restrictive and inaccurate is acknowledged by the author of this paper (a Past President of N.A.A.) who uses the example of a local dairy enterprise to illustrate the possibilities of budgeting for enterprises of virtually any size.

### Accounting Principles and Income Tax Allocation

*Weldon C. Powell, New York Certified Public Accountant, January 1959.*

"In almost all cases where the provision for income taxes shown in the income statement appears to be out of line in relation to the net income for the period, there should be some kind of explanation." This quotation is from the present article which concerns itself with the development and application of the doctrine of tax allocation, and has reference also to Accounting Research Bulletins of the A.I.C.P.A. on the topic.

### Pre-Test Your Long-Range Plans

*William J. Platt and N. Robert Maines, Harvard Business Review, January-February 1959.*

The use of "models of current operations" by "management scientists" in "the decision laboratory" is explored in this paper, along with use of "the business game" and other like devices, on the theory that the "planning job to be done" should be done "aggressively."

### How To Use Market Share Measurement

*Alfred R. Oxenfeldt, Harvard Business Review, January-February 1959.*

Pointing out that market share determination is "among the most widely used of all business tools," the present author feels that it is worthy of more definitive attention than it has received. A portion of this exposition is devoted to hazards of market share measuring in forecasting.

### Problems of R & D Management

*C. Wilson Randle, Harvard Business Review, January-February 1959.*

Policies in research, problems, results evaluation and "cost headaches" are central to this graph-illustrated paper which explores the fundamentals of research activity and its appraisal.

### Planning for Corporate Growth

*Helge Holst, The Controller, January 1959.*

The economic environment emerges profiled in this article in a manner to stir the minds of readers to believe there is some degree of access to what the future will bring to business enterprises. Eight "factors supporting a rising economy" are an example of suggestive information, as are the graphs of capital outlay, employment, research expenditures and other elements in the economic picture.

### Some Notes on Product Combination Decisions

*Robert K. Jaedicke, Accounting Review, October 1958.*

The purpose of this article is self-indicated as "to describe a (decision-making) model, using accounting technique," the model to "set forth the theoretical principles to be considered" and to "guide in solving the measurement and reporting problems posed by its practical applications."

## ADDRESSES OF PERIODICALS:

**The Controller**

*2 Park Avenue, New York 16, N.Y. Single copy: 60¢.*

**Harvard Business Review**

*Soldiers Field, Boston 63, Mass. Single copy: $2.*

**Journal of Accountancy**

*270 Madison Avenue, New York 16, N. Y. Single copy: 85¢.*

**New York Certified Public Accountant**

*677 Fifth Avenue, New York 22, N. Y.*

NATIONAL ASSOCIATION OF ACCOUNTANTS
NAA
1919

# From The Inside

**PAGE 50:** *"Often a machine is considered the answer to an overload of work in one particular operation. However, after an analysis of the operation, it may be found that this overload can be eliminated by other methods."*

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**PAGE 57:** *"All costs finally defined as moving expenses should be accumulated separately from normal operating expenses. As pointed out previously, separate accumulation is fundamental to good control on both the normal productive process and the moving program."*

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**PAGE 83:** *"The new hybrid business form which the pseudo-corporation embodies permits a great deal of flexibility as to the choice of the most advantageous method of business organization. The election can, therefore, be used to good advantage on a one-year basis, so that large capital gains or operating losses can be passed through."*

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**PAGE 88:** *"It is also logical to recognize that the government auditors must have access to internal audit work papers. This section is not clear, however, in providing the internal auditors the same access to the government's work papers. Without the mutual interchange, the contractor's staff cannot logically undertake a coordinated approach."*

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**PAGE 38:** *"I have discussed the theories which led to the decision to account for the special merchandising programs under the concept that the cost to the company is only the standard cost of the merchandise involved."*

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**PAGE 63:** *"And why shouldn't dollar-value "lifo" be based upon a single pool? Isn't it an inherent purpose of dollar-value "lifo" to remove the effect of price changes from the total dollar investment in inventory and from all costs of shipments? Should change in inventory mix be allowed to negate the effect of this purpose?"*

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**PAGE 69:** *"Probably the worst example of proliferation of checks would be the case of a vendor offering terms of one per cent ten days. If the vendor shipped every day and if the full allotted time of payment were to be utilized and all discounts taken, it would mean that a check would be issued to him every working day."*